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Battlefield Intelligence in World War II:

A Case Study of  
the Fifth Army Front in Italy (U)

G. K. Tanham

RM-1792

ASTIA Document Number AD 112380

12 September 1956

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SUMMARY

This study offers a reconstruction of the battlefield intelligence situation that obtained on the Fifth Army front in Italy during an eleven-day period in World War II. The findings indicate the importance of various sources of battlefield intelligence, and the amount of information available to the opposing armies both during the static situation preceding the Allied offensive of 11 May 1944 and during the offensive itself.

The study is based on American, Allied, and captured German documents of the period. The conclusions based on examination of these documents must be regarded as tentative, but as indicative of the value of research into intelligence questions by a historical method.

During the static situation preceding the 11 May attack, the United States Army Air Corps flew 175 reconnaissance sorties for Fifth Army. Photo interpretation accounted for 88 per cent of the artillery positions, 98 per cent of the antiaircraft positions, 64 per cent of the mortar positions, 78 per cent of the machine-gun positions, and 70 per cent of the pillboxes that Fifth Army G-2 claimed to have located. Furthermore, photo reconnaissance discovered two trails, which allowed the French to make their daring attack, and other miscellaneous but valuable information. In the fluid situation, no serious compilation of weapons

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positions was made, and the contribution of photo reconnaissance was extremely small, chiefly because of the time lag.

In the static situation, a good enemy order of battle was maintained. On the day of attack, G-2 knew the positions of all sixteen German frontline units, and of two of the three close reserves. In the fluid situation, the order of battle was less well known. Reinforcements were not identified until contact was made. Seventy-eight per cent of the reserve units committed were identified within twenty-four hours, and 22 per cent were identified twenty-four to seventy-two hours after being committed. Provisional enemy formations, such as battle groups, were never identified by G-2.

Prisoners-of war were among the best sources of information in both situations. The time lags involved were:

Average time from capture to interrogation: 3 hours,  
52 minutes.

Average time from capture to information at Corps:  
7 hours, 12 minutes.

Average time from capture to information at Army:  
11 hours, 13 minutes.

POW information was, according to the record, the most important source at regimental level.

After the first couple of days of the attack, the amount of information on the Germans declined steadily, until both sides paused briefly around 19-20 May. During this period, both ground and aerial observers had trouble

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determining whether vehicles were those of fleeing Germans or pursuing Allies.

The deeper the Allies moved into enemy territory, the less abundant and less accurate the information became. In the static situation, the locations of corps and division headquarters were subject to errors of from three to five miles, though Army headquarters were accurately located. In the fluid situation, none of as many as six division headquarters was located.

There is considerable evidence that not all the available information was used or put in usable form. The order-of-battle (OB) overlay prepared by Fifth Army G-2 for 12 May and certain other days did not utilize all OB information available to G-2.

Radio intercept was effectively used by the Germans to make, in a general way, day-by-day locations of Allied regiments and divisions.

All units were negligent in transmitting information to higher echelons. The Army historian S.L.A. Marshall has shown that this was true in Korea, and the author of the present study observed that it was still a problem in the exercise SAGEBRUSH.

There is conflicting evidence about a full exchange of information between the Army and Air Corps (now Air Force). The Air Force felt that it was regarded as a source of information, but not as a recipient. However, this view

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conflicts with that expressed by Fifth Army G-2. It does appear that there was not as effective an exchange and use of information between Army and Air Force as was possible.

In the fluid situation there was inadequate information on the true condition of the enemy forces. Had the Allied Command been immediately aware of the general collapse of the Germans and of the holes in their line, they could have exploited the situation more than they did.

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### INTRODUCTION

The general purpose of this study was to determine, as fully as possible, given the time and records available, the intelligence information accessible to a United States field army in World War II. The Fifth Army front in Italy during the period 11-21 May 1944 was selected for analysis. The study is primarily concerned with collection and transmission of information, though some attention is paid to interpretation. It touches not at all on weather intelligence and very little on terrain.

More specifically, the attempt was to learn the amount of information contributed by the various intelligence sources, to discover, whenever possible, the accuracy of the information, and to ascertain the time lags between collection and use. Furthermore, an effort was made to determine to what extent there was exchange of information between the Army and the Army Air Corps (now Air Force).

While the findings of this very limited study cannot by any means be considered conclusive, they may shed some light on the general problem of battlefield intelligence, reveal areas where further study may be worth while, provide some guidance for intelligence inputs for war games, and test the value of the methods used in the present paper for studying intelligence problems.

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The basic research for the study was done at the Federal Records Center, Alexandria, Virginia. It was begun by Dr. Jeremiah O'Sullivan of Fordham University, who chose the time and place to be studied. He was assisted by Ralph Mavrogordato, Kurt DeWitt, and Conrad F. Latour. Ralph Mavrogordato deserves special mention as the one who continued to work on the study and contributed significantly to whatever value it may have. The present writer used the raw material provided by these researchers, and did some research of his own; he must take responsibility for the final report.

There are two basic approaches to the study of combat intelligence methods from historical records. Both were used in this study. The first confined itself to an analysis of the American military records, and led to an appraisal of the intelligence data obtained through various methods of gathering information, i.e., through POW interrogations, patrols, photo reconnaissance, etc. These methods were analyzed to determine which among them were most used and relied on during actual combat conditions. This yielded a quantitative finding, but failed to determine the qualitative factors of accuracy and timeliness.

The second approach involved reconstructing the actual events and conditions from the military records of the German military units, and comparing them with the information available to Army G-2 at the time. It was

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hoped that the latter approach might lead to a definitive determination of the accuracy and completeness of the total intelligence data, as well as of the accuracy, completeness, and timeliness of the various means employed to obtain information on the enemy.

Captured German military records made it possible to attempt a reconstruction of the German battlefield situation, and to compare it with the intelligence picture gathered by G-2 at the time, as revealed by American records. To a lesser extent, an attempt was made to reconstruct the Allied situation as a means of evaluating German intelligence information about it. The ideal situation -- availability of all German and American records making possible an accurate, if not complete, reconstruction of all the phases studied -- did not exist, and, for that reason, the study remains fragmentary and partly speculative.

The following factors contributed to the lack of complete information:

1. Some German records for the period studied no longer existed, or were not available.
2. Both the German and the American records failed to reveal all the pertinent information because
  - a) during actual battle, the situation, particularly of the Germans, was often too confused to allow for complete accuracy;

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- b) not all the intelligence information that must have been available, especially on the lower levels, was recorded or made part of the permanent record;
  - c) some pertinent documents were lost as a result of careless handling at the time they were assembled.
- 3. Access to certain pertinent records (U.S. radio intercepts) was denied the researchers for security reasons.
  - 4. The German method of keeping military records differed from the American method, and the time of the day or week when German reports were issued did not generally correspond to the time when G-2 reports were assembled, so that comparison of data was sometimes either impossible or meaningless. (The first of the two basic approaches described above was used whenever direct comparison was not feasible.)

The procedure of the researchers was to examine German operational records, and maps or overlays, of XIV Panzer Corps and Tenth Army to determine as accurately as possible the exact order of battle of units in line and in reserve, their location, and their movements on any given day. American G-2 and operational records were then examined to determine what knowledge G-2 had concerning the German order of battle and location of units. The same procedure was employed for German artillery positions, fortifications, and machine-gun positions, except that the German records did not reveal the precise positions, but only the general location of artillery regiments and sometimes of battalions.

One great weakness of American G-2 records greatly handicapped the research. It was presumed that all

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intelligence data concerning order of battle, for instance, would be combined in one report of Fifth Army. This, however, was not the case. The daily intelligence summaries of Fifth Army and the appended G-2 overlays contained much, but not all, of the information available to the Army at the time the report was issued. It became necessary, therefore, to examine the daily messages received from Corps and Division, to consider information that had appeared on previous reports and had not been contradicted by later information, and to consult other sources in order to arrive at a valid picture of information available to G-2 at the end of any particular day. The overlays reproduced in this study, therefore, are not exact replicas of G-2 overlays of Fifth Army, but contain considerable additional information that was assumed to be available at the time and used by operational officers.

Similar difficulties were encountered with American records of artillery operations. Numerous sources supplied information, and II Corps published periodic active and suspect battery lists, but these failed to include all the information known at the time; this was shown by comparison of the lists with photo reconnaissance reports, with information contained in the records of artillery brigades, with sound and flash reports, etc. To arrive at a valid picture of all information on German artillery positions available to Fifth Army, therefore, it was

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necessary to combine and correct the various reports issued at the time, thereby introducing an unavoidable margin of error. For the static period, G-2 published an overprint containing all data known at the time concerning artillery, fortification, machine-gun and mortar positions, minefields, etc. With this overprint as a basis, positions known through later records to be no longer occupied were erased, and positions discovered after the date of the overprint, 1 May 1944, were added.

Of the almost unlimited number of sources of intelligence information, this study deals with sources which contributed most of the tactical intelligence, such as photo and visual air reconnaissance, Piper Cubs or air observation posts, ground reconnaissance and observation posts, radio interception (both listening and triangulation), civilian informants and agents, interrogators of POW's and deserters, and interpreters of captured documents.

It proved impossible to determine the collecting agency or source of all the intelligence, because it was not always recorded in a way that disclosed such information. Certain agencies issued reports which made it easy to determine their contribution to the total intelligence picture; this was particularly true for photo reconnaissance and POW interrogation. It was much more difficult to determine the contribution of observation posts, reconnaissance, Piper Cubs, and civilian informants, though

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research in the unit message records was often rewarding. Fifth Army G-2 currently states that there were secret sources of intelligence which were known only to a few and which are still held secret. Many of the records of its lower units (battalions and regiments) no longer exist, so that the sources of their information were often difficult to discover. The researchers who undertook this study suspected, on the basis of personal experience, that the lower echelons -- battalions and companies -- often had much intelligence which was never recorded or reported to higher units. Hence the limitations of using only historical records for a study of intelligence operations. Nevertheless, the present study may show that some things can be learned in this way.

Army doctrine states that intelligence efforts will be based on the EEI (Essential Elements of Information) specified by the commanding officer. In practice, however, each commander generally asks for all the information about the enemy that he can get, although he may at times emphasize certain items. In the present study, battle situations have been arbitrarily divided into static and fluid. In a static situation, the front is reasonably stabilized, neither side is attacking, and both sides have time to gather a considerable amount of information. Such a situation existed on the Fifth Army front prior to the 11 May offensive. We sought to discover what agencies

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were most important in that situation, and what types of information were collected.

Considerably more effort was spent in trying to gain insight into the intelligence problems of the fluid situation that followed the 11 May attack. Different types of intelligence were required, and time became a critical factor in the collection and transmission procedures. The intelligence problems of any future war are likely to be analogous to those of the fluid situation. Despite the possibly greater significance of that part of the present study, however, the difficulties inherent in the fluid situation made our findings less satisfying, in a statistical sense at least, than those resulting from study of the static situation.

The writer would like to repeat that he is aware of the limitations of the methodology described above. Yet, as a pilot study done in a relatively short time, the present effort does seem to have value, and has already spurred other organizations to undertake similar research.

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PART I

BACKGROUND

On 11 May, the Allies launched an offensive on the Italian front which carried them past Rome. The six weeks or so prior to this drive were relatively quiet, as the Allies prepared for the new offensive and the Germans continued to develop their defenses.

The Allied forces in Italy were composed of the Fifth and Eighth Armies, both under the supreme command of General Alexander. The Eighth Army, with eleven divisions, held the greater part of the front from the Liri River to the Adriatic. (See Fig. 1.) The Fifth Army had one Corps (VI), consisting of seven divisions, in the Anzio beachhead, about fifty land miles from the main front. At the main front, poised for attack, were Fifth Army II Corps (including two green divisions, the 85th and 88th, and possibly the 36th as reserve), and the French Expeditionary Corps (F.E.C.), consisting of four French divisions and three groups of Algerian Goums (12,000 men). The main Fifth Army front extended from Scauri, near Gaeta, on the south, to the Liri River, where the Eighth Army took over -- a total stretch of about thirteen miles. The Allied divisions were at full strength, and had trained and rested during April.

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The German forces in Italy were under the command of Field Marshal Albert Kesselring, Commander-in-Chief Southwest (Italian theater). This theater was divided into three major commands: Fourteenth Army, which had the primary mission of containing the Anzio beachhead, Tenth Army, which held the main front against the Allied Fifth and Eighth Armies, and Armeegruppe von Zangen, which occupied northern Italy. Fourteenth Army had two corps with a total of five divisions containing Anzio, and had three other divisions in reserve; the 92nd Infantry organizing at Civitavecchia, the 29th Panzer Grenadier near Lake Bracciano, and the 26th Panzer at Sezze, though the latter two were actually army group reserve. (See Fig. 1.) Armeegruppe von Zangen was created to organize the miscellaneous units scattered about its area. Being partly a reservoir of replacements and strategic reserves, and partly a conglomeration of odds and ends engaged in coastal defense and anti-partisan warfare, Armeegruppe von Zangen had a very irregular composition. It did include five conventional divisions, however, one of which, the Hermann Goering Panzer Division, was also a part of Oberkommando der Wehrmacht (OKW) reserve (controlled by Berlin), and was the only really mobile unit in northern Italy. The remainder varied in combat readiness and effectiveness. Most of the German units in Italy were at about one-half to two-thirds strength.

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German Tenth Army front during April and the beginning of May had been relatively quiet. This respite had given both sides an opportunity to recuperate from the heavy fighting of January to March, 1944. It was clear to the Germans, however, that it was only a matter of time before the beginning of the new Allied offensive. And it was almost taken for granted that such an offensive would again have Rome as its objective, and would be waged against the southern wing of Tenth Army. Yet Kesselring and other German commanders also feared that new Allied landings along the exposed Italian coast might create additional demands for their already overtaxed military forces.

Some difference of opinion existed among the Germans as to the most likely target of any such new landing operation. Headquarters southwestern front (Kesselring) and OKW (Hitler, Keitel, Jodl, Warlimont, etc.) dismissed the possibility of a landing on the Adriatic. It was thought entirely possible that northwestern Italy might be a target, if the Allies were prepared to commit North African reserves. This possibility was stressed particularly by Kesselring. OKW, on the other hand, considered that the threat to southern France was greater. The fear of new landings, and especially the possibility that they would occur along the western coast of Italy, played an important role in keeping the Hermann Goering Panzer Division in northern Italy as the only strategic mobile reserve in that

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area. The Germans considered that landing operations further south could be undertaken by Allied forces already in Italy, without commitment of North African reserves; the area of Civitavecchia and Genoa-Leghorn were considered likely targets of such operations.

In addition to such strategic moves, purely tactical landings near Gaeta and Terracina remained strong possibilities. Such landings would have endangered both Tenth Army at the main front and Fourteenth Army at the beachhead, and could have contained German forces without the necessity for further reinforcement of Allied units already in Italy. In seeking to estimate Allied intentions, the Germans were aided, or thought they were aided, by the rigid and cautious policy which, according to German sources, the Allies had adopted in previous operations. Thus, German intelligence officers and commanders ruled out potential landing sites that did not offer optimum advantages to an amphibious operation. One such was the region between the beachhead and Terracina, which was swampy and therefore not suitable for landing operations. Limited air reconnaissance capability prevented the Germans from close inspection of possible ports of embarkation for signs of amphibious operations. Consequently, they were not aware that craft necessary for large-scale landings were not available anywhere in the Mediterranean area.

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About the middle of April, Kesselring's staff officers became aware of a reorganization of Allied units which could have foreshadowed new offensive operations against Tenth Army. The United States 85th Division was now known to be in Italy, and the Germans observed that the boundary between Eighth and Fifth Armies had been shifted southward, thereby shortening Fifth Army lines and increasing its offensive potential. At this time, too, it was thought that Cassino would no longer be a primary target, but that the sector south of the Liri River would be selected for a breakthrough attempt. This was the same general area in which the British X Corps attack in January had almost succeeded in breaking the German lines. That drive had been stopped by two Panzer Grenadier Divisions hurriedly brought down from the Rome area at the very time that Allied ships were en route to Anzio, which, consequently, was completely denuded of German troops. This experience made Kesselring very cautious about committing his reserves.

The Germans further thought that an offensive against Tenth Army would be accompanied by strong Allied efforts to break out of the beachhead and join forces with their Fifth Army. In accordance with this estimate of Allied intentions, Kesselring began to realign his forces in order to be prepared. Fifteenth Panzer Grenadier Division was pulled out of line to become Tenth Army reserve and, at the

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same time, to guard the coast between Gaeta and Terracina, where tactical landings were feared.

After the first recognition that Allied forces were regrouping, detailed intelligence became sparse, and divisional commanders were constantly urged to send out patrols to bring in prisoners, so that a more precise picture of the Allied order of battle might be drawn and the disposition of troops learned. Later in April, a new danger was seen by Kesselring and Tenth Army Commander von Vietinghoff, namely, that an attack against the southern wing XIV Panzer Corps would be made in conjunction with an attack north of Cassino, a situation that XIV Panzer Corps was not expected to be able to handle.

On 23 April, Kesselring and von Vietinghoff received news that a Moroccan deserter had said that an Allied offensive would start on 25 April against the sector south of the Liri, where an attack was expected in any case. Kesselring and von Vietinghoff were inclined to disbelieve the report; their chiefs of staff, however, took the report seriously. OKW heard of the deserter's statements, and, possibly at the instigation of this high headquarters, frantic preparations were made at army and corps level to prepare against the predicted assault.

When the attack failed to materialize on 25 April, the Germans gained time to complete the contemplated reshuffling of corps borders. As of 10 May, XIV Panzer Corps commanded

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the sector south of the Liri River, with the 94th and 71st Divisions in line, and the 15th Panzer Grenadier Division deployed behind 94th Division as Army reserve and as a reserve against tactical landings. North of XIV Panzer Corps, LI Mountain Corps assumed command over most of the 44th Infantry Division, the 1st Parachute Division, the 5th Mountain Division, and the 114th Jäger Division; corps Hauck, a provisional corps headquarters that included the 305th and 334th Infantry Divisions, adjoined LI Mountain Corps on the north and held the line to the Adriatic. (See Fig. 1.)

The failure of the Allies to attack on 25 April left the Germans with a feeling that a breathing spell had been gained and that an attack was no longer immediately imminent, but was perhaps a month off. The fear of an Allied attack from the beachhead also subsided after the build-up opposite Tenth Army became apparent.

The over-all shortage of manpower and the lack of strategic reserves led the Germans to rely on a linear defense in Italy. Almost all the combat-worthy units were put in the line, with the hope that they could prevent an Allied breakthrough and, at least temporarily, hold certain defensive lines. The High Command planned to delay the Allied advance up the Italian boot as long as possible and inflict the greatest number of casualties. It was perhaps dangerous to commit so many of the troops, but Kesselring saw no other way of accomplishing his mission. Allied air

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superiority severely limited German mobility and essentially excluded any form of mobile defense, even if German troops had been available for such warfare. The mountainous terrain, which limited the communication net and made for long detours, favored the Allied air campaign. Again and again the German generals complained that units could not move during daytime, as they had been able to on the eastern front. Thus, in a sense, higher headquarters were not able to influence the battle by committing the reserves.

In some ways, the difficult terrain favored the defending Germans. Whenever possible, they held the high ground even if only the reverse slope of a hill, and retreated from high ground to high ground, thus always forcing the Allies to attack uphill. In the spring of 1944, the Germans concentrated their defensive efforts on the Gustav Line, which had withstood the earlier Allied attacks, but they also built switch lines and continued work on the Senger Line (formerly the Adolph Hitler Line), which ran from the Gustav Line north of Cassino across the mountains to the sea at Terracina. While the Germans prepared defensive positions, dugouts, pillboxes, and gun positions, all with excellent camouflage, they tended to devote less attention to the mountainous areas than to the coastal plain and the Liri River valley. They relied on the mountains as natural barriers and did not anticipate an Allied attack across them. The narrow but level land belt along the coast and

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the Liri River valley, however, were considered the areas of greatest danger, and consequently they were more heavily manned and provided with greater fortifications than the mountainous areas. The much longer mountainous front was assigned primarily to one division, and its fortification was largely neglected or purposely ignored. In spite of urgings by higher headquarters, it appears that much of the work of fortifying this section of the front was done half-heartedly.

Field Marshal Kesselring, following the usual practice of the Wehrmacht at this period of the war, exercised much closer operational control over subordinate units than was customary in the United States Army. He spent considerable time talking on the telephone, not only with the army commanders, but also with the corps and divisional generals, and at times even with their subordinates. It was not unusual, during such conversations, for him to inquire about the location of a certain battalion, or to discuss the merits of some lower-echelon commander. Furthermore, the Field Marshal kept control over most reserves, though he was satisfied to be merely kept informed about the employment of divisional reserve units. When poorly or inadequately informed, he could scarcely make intelligent decisions. The significance for intelligence of this highly centralized arrangement was that the subordinate commanders were allowed little freedom to operate on the basis of their

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own intelligence, which, in a fluid situation, was often far more accurate and timely than the Field Marshal's. In the static situation, however, because of expert flash and sound and radio intercept, German higher headquarters was likely to be better informed than the lower echelons.

The Wehrmacht intelligence system differed from the American. In the United States Army, while the intelligence officer may not have the same rank, or even enjoy the same prestige, as other staff officers, he is theoretically on an organizational par with the others. In the German Army, this was not the case. Historically, the key and dominant staff officer in the German Army was the operations officer, the Ia. He had greater prestige than the intelligence officer, Ic, who was subordinated to Ia, and had no direct intelligence channels of his own, except for espionage. Another indication of the subordinate role of intelligence in the German Army was that the Ia in all echelons, including division, usually was a general staff corps officer, whereas the Ic, at division level and even at some higher levels, was not. At division level, the Ia was usually the only general staff corps officer, and served as the chief-of-staff of the division. This arrangement gave primary consideration to operations, and therefore to the Germans' own plans, and sometimes led to inadequate concern for what the enemy was planning or beginning to do. On the other hand, there was some advantage to having intelligence and

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operations more closely coordinated by a single officer.

The functions of the German Ic at division level were similar to those of the United States divisional G-2. He prepared operational intelligence, carried on liaison with neighboring divisions and corps, and maintained contact with subordinate units. He continually analyzed the enemy situation and prepared a daily situation report; he might also order reconnaissance missions to obtain certain information. His assistant, the O3, was specifically charged with the maintenance of the situation maps (enemy order of battle, artillery positions, movements, etc.), although these tasks were sometimes done by the Ic himself. There were provisions in the Table of Organization (T/O) for an interrogation section. When, on occasion, the Ic had to concentrate on his duties as deputy operations officer, all the intelligence functions fell to the O3. The corps intelligence officer had functions similar to those of the division Ic, and was, in addition, responsible for counter-intelligence (Abwehr) and propaganda operations. The Ic at army level, while still subordinate to the Ia, seems to have had greater prestige within the command, and greater influence upon decisions.

One other difference between German and American practice should be noted. American army organizations at all levels down to and including battalion have a staff officer responsible for intelligence. There is thus a

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regular channel for the flow of intelligence information, and one person with specific responsibility for the intelligence function. In the German Army, there was no officer below division level who was primarily responsible for intelligence; intelligence was part of the command function. However, the Ordinanz-Offizier, a regimental staff officer with various duties, but primarily concerned with supply, was often given the additional duty of intelligence collection and dissemination. POW's were interrogated at regiment, but the interrogation was done by the division Ic or one of his assistants, and few records were maintained at the lower levels. Intelligence maps, based entirely on ground observation, were kept; but without a responsible officer to supervise their preparation, these were somewhat incomplete. Thus it would seem, from an organizational point of view at any rate, that the United States system permitted, at lower echelons, an easier flow of intelligence both up and down, and showed greater consciousness of the function and value of intelligence.

General Alexander's order of 5 May stated that the Allied forces were to attack and "destroy the right wing of the German Tenth Army, drive what remains of it and the German Fourteenth Army north to Rome, and pursue the enemy to the Rimini-Pisa line, inflicting the maximum losses on him in the process." While both Fifth and Eighth Armies

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were to launch attacks, the present study is concerned with the attack by the Fifth Army during the first ten days of this offensive, which began at 2300, 11 May.

The Fifth Army elected to concentrate its main effort in the mountainous area, where the German defenses were weak. The F.E.C. was ordered to attack Mount Majo and advance to Mount d'Oro, key points in the German defenses. (See Fig. 2.) II Corps was to advance along the coast and cut the Itri-Pico road near Itri. The 509th Parachute Infantry Battalion was prepared to go into action to facilitate the advance. The Germans opposed the Fifth Army attack with the 94th Grenadier (infantry) Division against the U.S. 85th Division, while the 71st Grenadier (infantry) Division with elements of the 44th and 15th Divisions defended the line against part of the U.S. 88th, the four French divisions, and the three groups of Goums.

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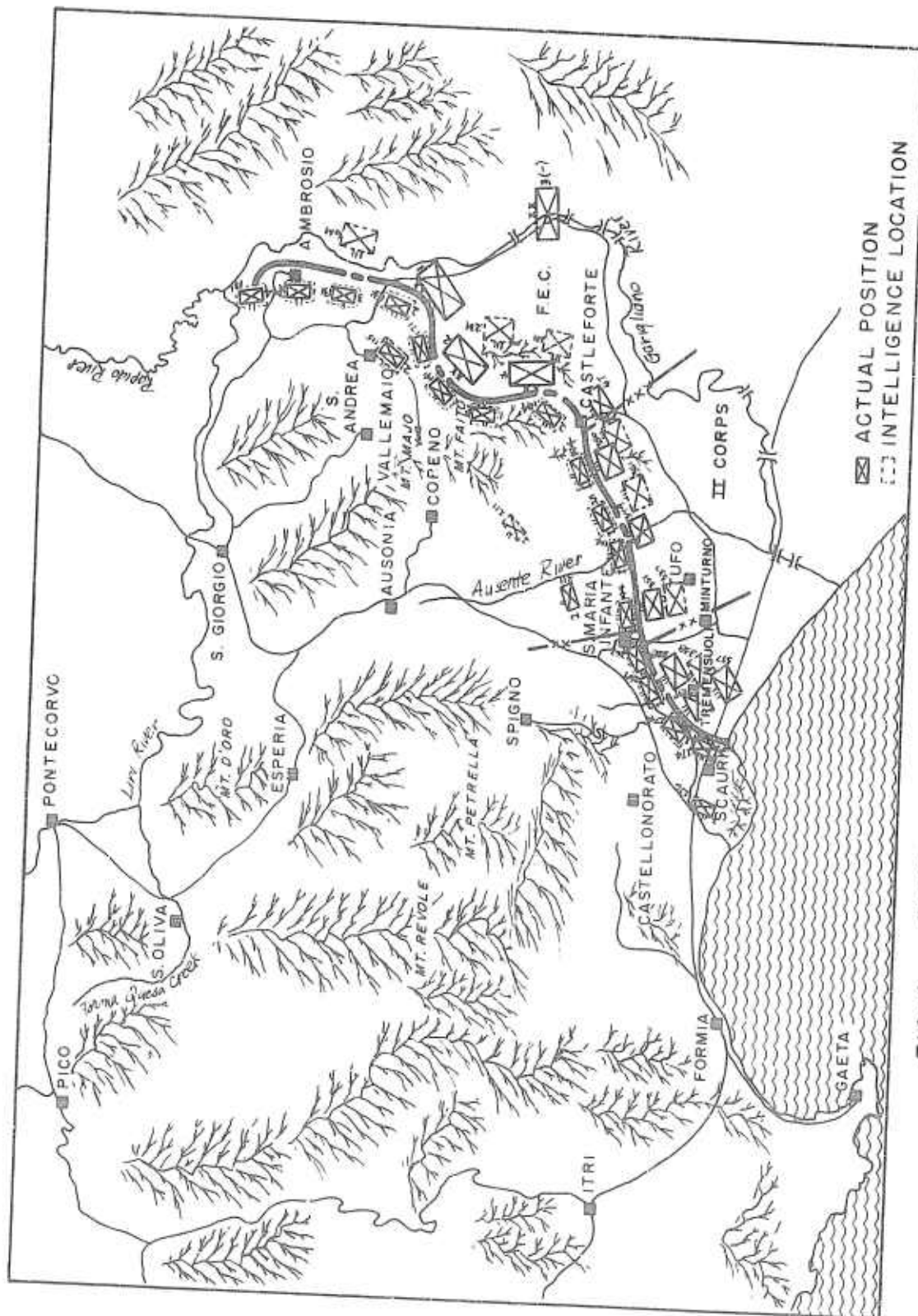


FIG. 2 — FIFTH ARMY FRONT IN ITALY, 11 MAY 1944

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PART II

THE STATIC SITUATION, 11 MAY

General Intelligence

On the eve of the attack on 11 May, Allied intelligence was able to report little change in its April-May estimate of German capabilities. Prisoners-of-war stated that German units were far below strength, and while they occasionally mentioned that they had been told that reinforcements would be sent, there was no evidence, at that date, that new units were on the way. Agent and air-reconnaissance reports indicated that no troop trains or convoys were moving into northern Italy, and that no reinforcements were going to the front. Strategic intelligence sent to Fifth Army tended to confirm this view of the over-all situation.

While some shifting of German units took place on the Tenth Army front, there were few, if any, really significant troop movements in early May. The major German moves involved changes in command; the change that put XIV Panzer Corps, which held most of the front on 11 May, in charge of the sector opposite Fifth Army from the Liri River south to the sea was apparently unknown to Fifth Army at the time.

Reports from various intelligence agencies indicated that the interdiction effort by the American Fifteenth

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Air Force during April and May had had considerable effect. Photographs revealed extensive damage to rail installations and to roads, which could only mean delay and interruption of German supplies. Agents and prisoners-of-war confirmed that, while the flow of supplies had not been stopped, it had been greatly restricted. Prisoners stated that by carefully husbanding their ammunition they had been able to make it do, but that the level of supply in no way permitted them to launch attacks or even to use the desired amounts of ammunition against the enemy. Thus, intelligence about German manpower and supply made it seem highly unlikely that the Germans could launch any large attack in the immediate future. It more or less followed that they would not attack. Evidence gathered since from captured German documents shows that this was an accurate appraisal of German capabilities and intentions at the time.

Allied intelligence after 25 April indicated that the Germans did not consider an Allied attack imminent. Diversionary movements in the Eighth Army area did not deceive the Germans about the place of any forthcoming attack, but did lead them to believe that regroupings were still in progress as late as 11 May, and, consequently, that there would be no attack for some time.

This is the only reason we could discover for the German failure to anticipate an immediate attack, though one suspects that there must have been others. There was

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no evidence from the front-line units that the Germans were more vigilant than usual. The routine of rotating units on, and further fortifying, the line continued. In April and earlier, whenever the Germans became apprehensive, they usually attempted to capture some prisoners, but in May there had been no increase in patrols or small-scale attacks designed to take prisoners. Observation posts, piper cubs, and air reconnaissance discovered no great increase in vehicular traffic to any of the German front-line units. Such increase, had it occurred, might have indicated that the Germans feared an attack and were reinforcing the area or building up a small reserve of supplies. But all the G-2 evidence indicated that the Germans did not expect an attack until later in the month. This intelligence appraisal was correct. General von Senger und Etterlin, commander of the XIV Corps, did not expect an attack until 24 May. In fact, at the time of the launching of the Allied attack, the commanders and some of the important staff officers of Tenth Army and XIV Corps were absent from their headquarters. This fact and later statements by German generals are evidence that the Germans were completely surprised by the timing of the offensive.

Intelligence reports indicated that the Germans expected an attack against XIV Panzer Corps, but did not expect that it would be launched across the rough and mountainous areas, as provided in the Fifth Army plan. They felt the Allies

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would continue their tactic of "bulling" forward. Certain pieces of information indicated rather clearly that this was the German estimate. Continuous photo reconnaissance showed that there had been very little fortification work in the Petrella Massif, and that almost none was in progress. Kesselring wrote in his memoirs that he did expect an attack in the Petrella area, but he also admitted that it was lacking in fortification. Small probing attacks, which generally indicated areas about which the Germans were concerned, were launched in late April in the Ausente River area and east of Mount Majo, but not in the areas of the projected main attack; and no such attacks had been made in early May.

Allied information on the disposition of the German units, which, as will be shown, turned out to be quite accurate, revealed that the coastal plain and the Liri valley were the most heavily-manned sectors of the line. Although the Germans showed some anxiety about the F.E.C. front when they shifted the artillery of the 71st Division westward behind the Ausente River, they were in no way aware of the great build-up in this area, and so remained ignorant of the Allied intention to attack over high ground.

G-2 was able to report that the Germans were putting most of their faith in the Gustav Line, which had held so well against earlier attacks. Prisoners-of-war reported

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the existence of the Senger Line and two switch lines, but indicated that they were by no means completed and that work was progressing very slowly. Photo reconnaissance confirmed the statements of the prisoners. This meant that, once the Gustav Line was broken, the attackers could probably push forward rather rapidly, since there was no completed defense line in the rear, and since the Germans had few reserves available, for the first days at any rate.

Order-of-Battle Information

The German order of battle was known quite accurately at Fifth Army. The two corps of Fifth Army, U.S. II Corps under General Keyes and the F.E.C. under General Juin, faced elements of four German divisions under General von Senger und Etterlin. Allied intelligence was only slightly off on the boundary between the 94th Division on its left (south) flank and the 71st which, with some help from units of the 44th and 15th Panzer Grenadier Divisions, held the remainder of the front (north) to the Liri River. It was not aware of the changed corps boundaries, but this was not of great importance, since there had been little change in front-line strength. Allied intelligence was also largely ignorant of the positions of the units of the 15th Division.

The information on the front-line dispositions was almost complete and quite accurate. The 94th Division held

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most of the coastal plain. (See Fig. 2.) Its 274th Infantry Regiment held the sector next to the sea, with the 1st and 3rd Battalions on the line. The 2nd Battalion, made up primarily of Russians, and mistakenly listed by G-2 according to its old designation of 620 Ost-Battalion, was located just north of Gaeta, as part of the coastal defenses and as arreserve unit. G-2 had the entire 274th Regiment on line, but believed it was made up of only two battalions; therefore they were correct about the number of battalions in line. The 267th Regiment held the inland sector of the 94th Division, and had its two battalions on the line. The 94th Fusilier Battalion held the line south of the Ausente River. These units were correctly identified and placed. The 276th Regiment (two battalions) was scattered along the coast from Scauri to past Gaeta, with the 1st Battalion in reserve behind the 274th Regiment. The latter unit was not located by G-2. Kesselring wrote that he had ordered this reserve unit to the Petrella Massif, but that it had not gone there; this led to important consequences for XIV Corps. Thus the 94th Division, with its three-mile front, had five battalions on the line and one battalion in close reserve. Six of the nineteen line- and immediate-reserve battalions facing Fifth Army held about one-fourth of the front.

The 71st Division, with its from the 15th Panzer Grenadier Division and the 44th Infantry Division, took

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over at the Ausente River and held the front to the Liri River, a segment about nine miles long. The 114th Reconnaissance Battalion, apparently on loan from the 114th Jäger Division of LI Corps, took over at the Ausente River, and had the 1st Battalion of the 211th Regiment on its left flank. The two battalions of the 194th Regiment flanked and covered Castelforte. The 191st Regiment (two battalions) held the front along Mount Faito. The 171st Fusilier Battalion also defended Mount Faito. The three battalions of 131st Regiment (44th Division) and the 44th Fusilier Battalion (44th Division) held the remainder of the front to the Liri River. All of these front-line units were correctly identified and placed by G-2.

The second battalion of the 211th Regiment was in reserve, two kilometers east of Spigno on the Ausonia-Formia Road, and the 2nd Battalion of 115th Regiment (15th Panzer Grenadier Division) was in reserve near Vallemare. G-2 placed the 2nd Battalion of the 211th Regiment north instead of south of the Ausente River, but correctly identified and placed the other reserve unit. Thus, eleven battalions, plus only two in reserve, held nine miles of the front, including some of the most difficult terrain. Since Allied intelligence had misplaced one of the reserve units (2/211), G-2 was not aware that its location would enable it to go into action on the coast.

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Figure 3 shows that Allied intelligence identified and located accurately all sixteen of the German front-line units; but, of the three reserve units, one was placed and identified correctly, the second was misidentified but placed correctly, and the third was identified but misplaced. Furthermore, only one of nine distant (over five kilometers from the main line of resistance MLR) reserve units was identified, and none was located. Though Fifth Army history claims that all German regimental Command Posts (CP's) were located accurately, the records we studied did not show this to be so. Fifth Army was approximately five kilometers in error in plotting the two division CP's. XIV Panzer Corps headquarters location was not known to Fifth Army. But Tenth Army headquarters position was, and it was destroyed by an air attack the day the offensive began.

These facts reveal a very significant weakness in Allied intelligence, namely, the inaccurate location, even under the most favorable circumstances, of units and installations in the rear area. In atomic war, which most observers foresee as a highly mobile type of warfare, accurate location of reserves and headquarters by intelligence would be most important. In the situation studied here, the location of reserves and headquarters was in error anywhere from three to five kilometers. While this may have been accurate enough to determine

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## ORDER OF BATTLE, 11 MAY 1944

	<u>Actual Units</u>	<u>Identified</u>	<u>Placed</u>	<u>Placed and Identified</u>
<u>Allied Intelligence</u>				
Front Line Bns	16	16	16	16
Tactical Reserves (Bns) <sup>a</sup>	3	2	1	1
Regt CP's	7	7	0	0
Division Hqrs (94, 71, 15)	3	3	0	0
Rear Reserves (Bns)	9	1	0	0
Reserve Division (Its Bns included above)	1	1	0	0
<u>German Intelligence</u>				
Front Line Regts <sup>b</sup>	12	9	7	0
Tactical Reserves (Regt)	10	0	0	0
Regt CP's	22 <sup>c</sup>	9	0	0
Division Hqrs	8 <sup>d</sup>	3	0	0
Reserve Division	1	1	0	0

<sup>a</sup>Within 5 Km of the MLR.

<sup>b</sup>German records only placed regiments (5 U.S., 7 French on line).

<sup>c</sup>One French division had four regiments.

<sup>d</sup>Goum headquarters considered as division headquarters.

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the time it would take to bring up reserves at certain points in the line, it was not precise enough to make it possible to attack and destroy them, by air or artillery, before they were committed. Nor was it accurate enough to permit effective bombing of the headquarters, whose destruction would have hampered the defense. In an atomic war, particularly in a friendly area, if it is known that accuracy of location is subject to as much error as this, there may be a disinclination to use tactical atomic bombs against such targets.

While Allied knowledge of the general order of battle of the Germans seems to have been good, information about their strength in men and weapons was apparently scarce. It appears from the records that intelligence was more interested in identification and location of units than in detailed information about them. Prisoners-of-war were interrogated on the subject of strength of units, but no careful study of fighting capability seems to have been made on the units in the line or in reserve. Whereas the order of battle (OB) shows about two-and-a-half German divisions opposing slightly under seven Allied divisions, the actual ratio was somewhere between five and six to one in favor of the Allies. However, since it was usual for German units to be at about half their strength -- they had been so for most of the Italian campaign -- G-2 may have simply assumed that the units in front of

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Fifth Army were under strength. It is also possible, of course, that studies were made on this subject that were not discovered by the present research.

German information on Allied OB was not current, and thus tended to underestimate Allied front-line strength. The German High Command had fairly good information on II Corps, whose strength had not changed. They correctly identified and placed it and its two divisions. They placed four line regiments, though they did not put the numbered regiments in their proper positions, and they missed one. They knew of the existence of, though they did not locate accurately, the 36th Division. Their intelligence greatly underestimated the front-line strength of the F.E.C. The movements, during the first ten days of May, of the 2nd Moroccan, 1st Motorized, and 3rd Algerian Divisions, and of the Goums, into or near the Garigliano River bridgehead had been made without the Germans' learning of them. The Germans placed only the three regiments of the 4th Mountain Division on the line. Thus, limitations in intelligence capability combined with time lag to give the Germans a false picture of the opposing forces. They thought there were only three divisions in line with a few reserves, whereas there were nearly seven divisions poised for the attack.

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## Intelligence on German Artillery

On 11 May, XIV Panzer Corps and its divisions had sixteen battalions of artillery in line. These units had a total of at least 161 pieces (we did not have data for one battalion) distributed among an estimated 58 batteries. Since the battalions were all short, it was not clear how many batteries there were in each. We found references to another 12 batteries in repair, on the road, or held as reserve. The Germans complicated the problem of Allied artillery intelligence in several ways: they were very adept at camouflage and at constructing dummy positions; they divided batteries so that there would appear to be more artillery than there actually was; they used guns in different positions to register; they changed positions fairly frequently; they simulated flashes in order to deceive flash and sound units; and often they avoided firing from some positions in order to escape detection. In addition, the imprecision of some of the locating methods used by the Allies in some cases caused a single German position to be plotted in several places and counted several times. Battery positions were constantly being added by Allied G-2, but it was extremely difficult to know when to drop a position from the active list.

At the time of the attack, the Allied intelligence active battery list claimed with fair certainty the

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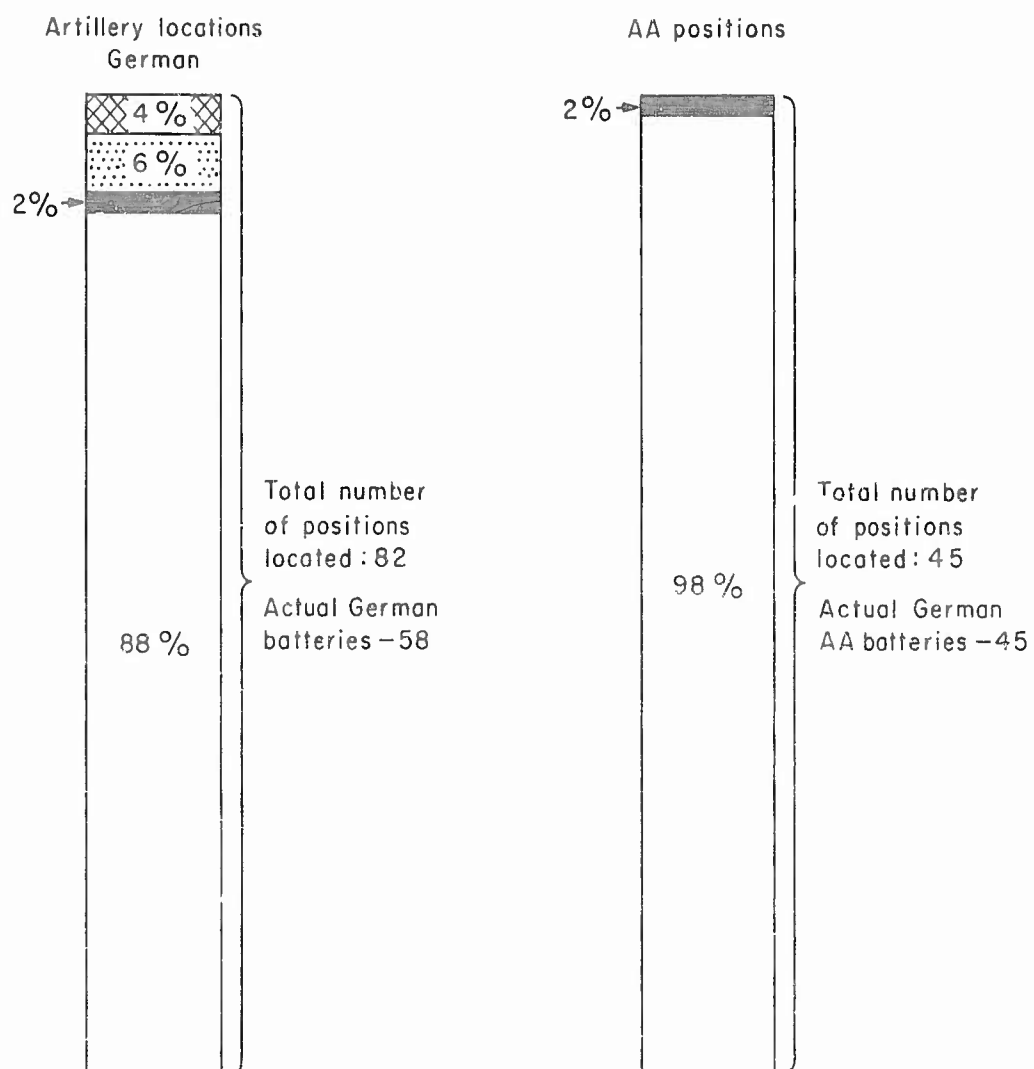
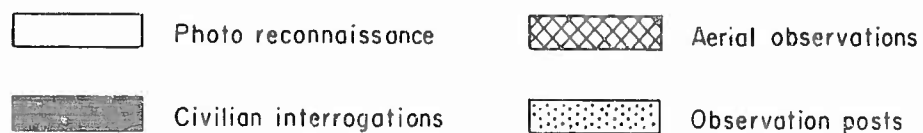
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location of the positions of 82 German batteries. It seems highly unlikely that all these positions were in fact occupied, since the Germans had only 58 batteries, and since some twenty or more new battery positions, which had apparently remained silent until the attack began, were discovered on 12-13 May. Furthermore, the German records indicate many instances of Allied aerial bombardment of dummy positions. Figure 4 reveals that, of the positions claimed to have been discovered by Allied intelligence, 72, or 88 per cent, were located by means of photo interpretation, with POW's, civilians, and observation posts supplying the remainder. The German records did not show battery positions, but merely identified the location of regiments and battalions by general area. In a few instances, we were able to determine battery locations from the German records, but not frequently enough to warrant general conclusions. However, many of the locations made by the Allies were in the general areas indicated by the Germans, from which we can conclude that many of the locations were fairly accurately specified. This opinion is substantiated by a number of smashed German artillery pieces found by the advancing troops, and by the fact, reported in the German records, that, on 20 May, their battalions were reduced by about two-thirds in gun strength, or down to 53 pieces.

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G-2 information available to Fifth Army as of 12 May 1944

Fig. 4.

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There were approximately 45 German antiaircraft (AA) batteries in the sector opposite the Fifth Army. Allied intelligence claimed to have located 45 batteries, and to have many more on the suspect list. Though Fifth Army may have located all the AA batteries, the number 45 would seem to be a coincidence, in view of the suspect list. Photo interpretation was almost the only source of information in this category. It supplied 44 out of the 45 locations, with a civilian informant giving information on the last one. The German records available to us did not give AA locations, so that we could not check the accuracy of Allied information on this point.

It is interesting to compare German intelligence about Allied artillery with Allied intelligence about German artillery. The Fifth Army, excluding VI Corps in the Anzio beachhead, had 157 batteries. Sixty-three were in the U.S. II Corps area and 94 in the F.E.C. area. The total figure included division and corps artillery. The 194th group of the 13th F.A. Brigade (U.S.), which comprised the bulk of F.E.C. artillery, was physically located within the Eighth Army area, and was interspersed with British and other Allied artillery units. The Germans made no distinction between United States and Allied batteries, and we have therefore excluded the 194th group (12 batteries) from the Fifth Army totals,

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Thus leaving 145 batteries. German intelligence claimed to have located 63 batteries, or about 43 per cent of the Allied positions, while the Allies, including the suspect list, showed three times as many locations as there were German batteries.<sup>1</sup> The bulk of the Allied artillery located by the Germans was in II Corps area, where there had been little shifting. French division artillery moved into position secretly, and did not register or fire until the attack, thus preserving the element of surprise. Consequently, German intelligence was weakest in the area of the attack. However, while the French divisional artillery was not picked up in time by the Germans, much of the F.E.C. artillery, which had been in position longer, was located.

German intelligence on Allied artillery was gathered primarily by three agencies: radio intercept, sound and flash, and ground observation posts. Radio intercept provided information on artillery both by message intercept and by means of triangulation to determine positions. While the latter method of location was not accurate enough to warrant automatic counter-battery fire, especially in the light of the Germans' limited supply of ammunition, it gave general positions which could guide

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<sup>1</sup>The Germans appear not to have located any Allied AA batteries.

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the searching activity of other agencies. However, in a war in which tactical A-bombs are available, triangulation from radio intercept may easily be accurate enough to justify an attack. It has been predicted that installations can be located by triangulation with only a 2 per cent error. Thus triangulation, which is fast and reasonably accurate, should play an important intelligence role in a future war.

The Germans were also very adept at the use of sound and flash, although the rough terrain of Italy was not particularly suited to use of these devices. Although the Allies did not seek to deceive the Germans by using simulated fire, it appears that the inaccuracies inherent in the flash and sound method led the Germans to locate two or three Allied batteries where there was only one. In so far as ground observation was concerned, the Germans had the advantage in the choice of terrain that would give them the best OP locations. The Germans did not use light planes to obtain artillery intelligence, nor was their air force of any help in that connection. The agencies they did use were able to provide more or less immediate and reasonably accurate, though limited, information on Allied artillery.

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## Intelligence on Weapons

The total information (as obtained from the records) available to, but not necessarily known at, any one place in Fifth Army revealed 161 German machine-gun positions, with no distinction made as to light or heavy. The Germans had 16 battalions on the line, and the German table of organization and equipment (T/OE) called for 55 machine guns(MG's), light and heavy, per battalion. Since the German forces were far below strength, it can be assumed that they were reduced in weapon strength also. We have estimated that the German units were at between one-half and two-thirds strength, and we have put their machine-gun strength at the latter figure. This would put the total number of machine guns along the front at about 600. General von Senger felt that this was a fair estimate. Not all of these MG's of course, were actually on the line; some were guarding headquarters and performing other duties. But all were of interest to Allied intelligence. Thus the Allies, if their location efforts were accurate, found approximately one-fourth of the German machine-gun positions, most of which were in the line.<sup>2</sup>

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<sup>2</sup>We did not have available French records, which undoubtedly would have provided many more locations; nor did we have German records to check the accuracy of the Allied location efforts.

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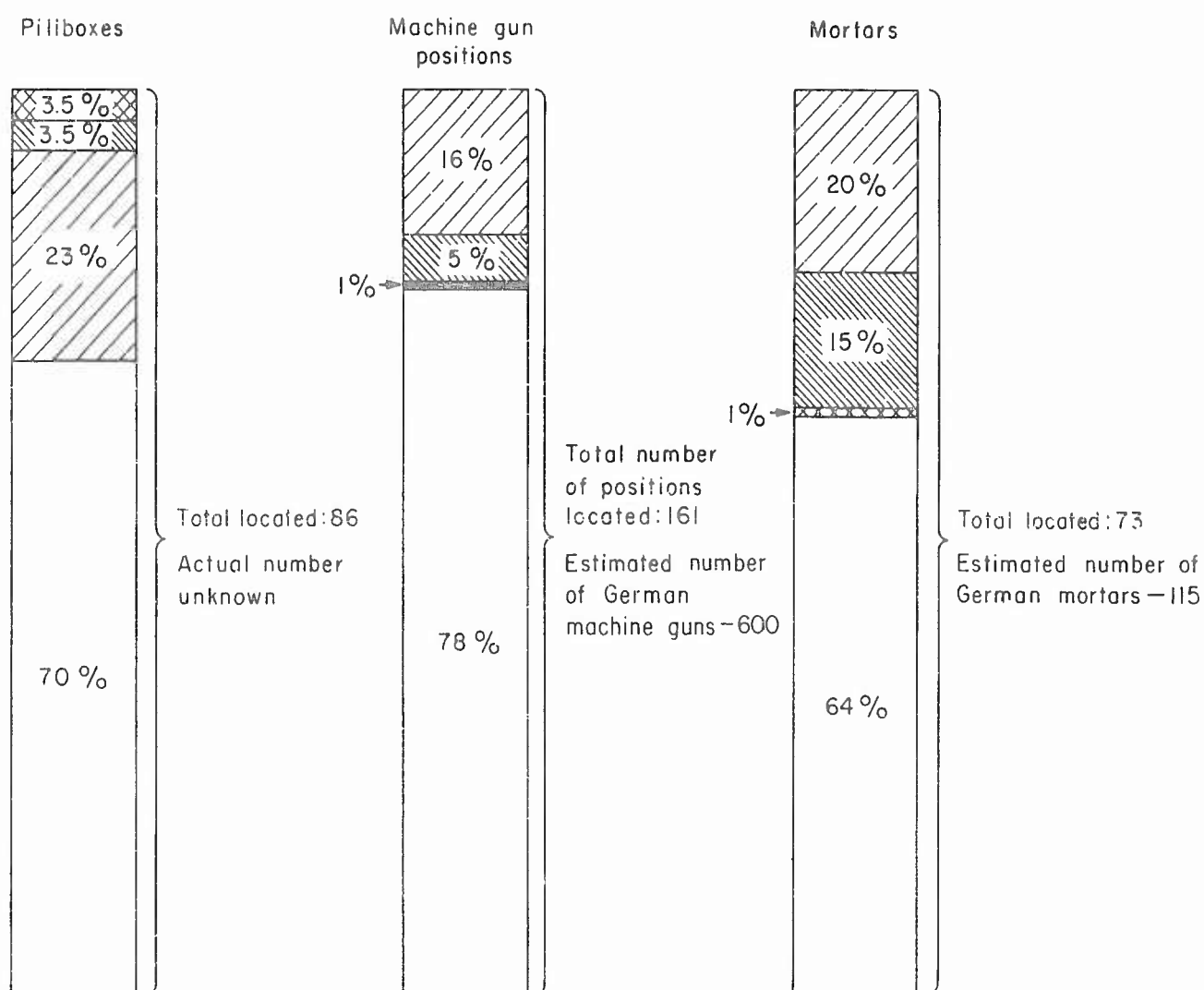
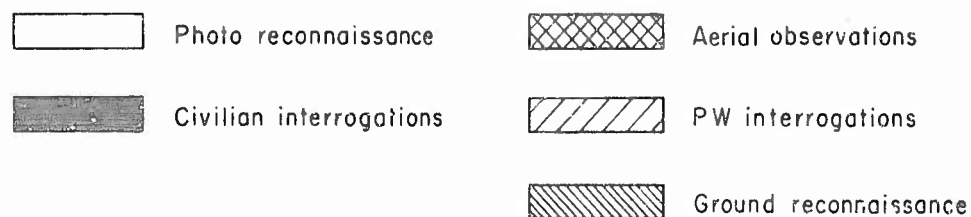
Photo intelligence again provided the greatest amount of information on machine guns; some of this may have been original, but more was probably confirmatory. (See Fig. 5) It is interesting that photo reconnaissance contributed so greatly (about 78 per cent of the locations) in this field, which is normally regarded as a sphere for ground intelligence. A partial explanation is that the German machine-gunners did not fire frequently for fear of bringing on Allied artillery fire, thus making it difficult for front-line units to locate the MG positions. Prisoners-of-war revealed 16 per cent of the known positions, while ground reconnaissance (5 per cent) and civilians (1 per cent) supplied the remainder.

The problem of locating German mortars is of considerable interest, because American soldiers always felt that these weapons were very effective and difficult to locate. As shell-firing rather than bullet-firing weapons, mortars were important producers of casualties. The contention that they were difficult to locate seems to be challenged by our findings in this particular situation, if they are accurate. The 16 German line battalions at T/OE strength should have had a total of 160 mortars, including both 81 mm and 120 mm. Reducing this figure also to two-thirds strength, we conclude that there were about 115 mortars opposite the Fifth Army.

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G-2 information available to Fifth Army as of 12 May 1944

Fig. 5.

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By 11 May, Fifth Army intelligence had located 73 mortar positions. Since mortars are usually positioned by platoon, or at least in pairs, it seems possible that G-2 had thus located more positions than there actually were. Further, since dummy positions are not usually constructed in the case of mortars, we must conclude that the Germans moved their mortars around and that there were some mistakes in intelligence. We unfortunately were unable to learn the German mortar positions, and so have no check on the accuracy of the G-2 location.

Photo intelligence again was the greatest contributing agency to mortar information, providing 64 per cent of the locations. Mortar positions can be well dug in and camouflaged. Therefore photographs, which permit long and careful study, are particularly valuable in locating them, especially when other agencies can suggest areas for search. Prisoners-of-war provided the information which placed another 20 per cent of the German mortar positions. Reports of POW's have certain disadvantages; they are apt not to be precise enough as to location, they are often not up to date, and they are sometimes unreliable. It was difficult to capture a mortar man or a soldier, particularly in a quiet and static situation, who could give precise, timely, and reliable data. Surprisingly, ground reconnaissance located only 8 MG positions, which, it seems, would be better objects for such search, whereas

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it discovered 11 mortar positions, which normally are farther behind the line and theoretically more difficult to locate. Air OP's discovered only one mortar position.

In addition to information on machine guns and mortars, the Fifth Army Command had been given a fairly complete intelligence picture of the Gustav Line. Prisoners had described the nature of the fortifications, and had given the locations of some of them. Knowledge of 86 pillbox sites was claimed by G-2; we were unable to verify the correctness of the locations. Seventy per cent, or 60, of these had been located from aerial photographs, while prisoners-of-war had given the positions of 20, or 23 per cent; ground observers and piper cubs had each discovered 3, or slightly over 3 per cent. (See Fig. 5.) In addition, Allied intelligence had information on 7 minefields (6 located by prisoners, 1 by photo reconnaissance), 5 strong-points (all by photo reconnaissance), and 4 sets of trenches (3 by prisoners, 1 by photo reconnaissance).

This study did not consider certain weapons which were generally very few in number. While the German regiment contained an antitank company, it was largely made up of bazookas (36) and had only three antitank guns, typically 75 mm. With about the equivalent of seven regiments on the line at two-thirds strength, there was perhaps a total of fifteen to twenty antitank guns.

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These, along with the bazookas, were well camouflaged and did not fire until attacked, so that the Allies had few, if any, locations for these weapons. The same was true for self-propelled guns and tanks. The 115th Panzer Battalion of the 15th Panzer Grenadier Division, in distant reserve, was the only tank unit in this area, and its positions was not known to Allied intelligence as of 11 May. There were a few Air Force reports on tanks and on the location of six self-propelled guns, but since most of these weapons were in reserve, ground intelligence had little information on them. The various howitzer companies of the infantry regiments may have had a total of about forty infantry howitzers on the line. These were not located separately, and it is suspected that some of them may have been included in the locations of German artillery.

There was other information which was not included in the present study. There were a few reports on supply depots, barracks, messes, and aid stations, but so few that they seemed meaningless. Also, we kept no account of the rail and road traffic reported by the Air Force, though this information was extremely valuable at the time.<sup>3</sup> We made no attempt to record such indefinite,

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<sup>3</sup>The Air Force has rather complete statistics on rail and road traffic, and on the number of destructions.

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though very valuable, information as reports of groups of men in a given area, or fire coming from "those woods," or a German patrol sighted at such and such a place. We did not try to keep account of miscellaneous information, such as "three green flares means fall back." All such information is, of course, essential for a complete intelligence picture, but is most difficult to incorporate into a short study.

## Sources of Intelligence Information

An examination of the sources of intelligence information in the static situation prior to 11 May reveals that photo reconnaissance was the most important on artillery and weapon positions. Two reconnaissance squadrons flew about 175 sorties from 1 April to 10 May to provide this information.<sup>4</sup>

This finding, however, should be considered in the light of several factors. Photo interpretation records were kept by special units which published lists of findings daily. This means that the extraction of information from the records was easy and the source certain. Records of

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<sup>4</sup>It is interesting to note incidentally that the Russians believe that air reconnaissance to a depth of 200 kilometers reveals up to 90 per cent of the enemy positions. (Soviet Postwar Tactical Doctrine, U.S. Army G-2 publication, Vol. I, p. 37.)

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combat units were usually less complete and less clear as to sources of information. Photo reconnaissance was used by II Corps, particularly by the artillery, as a confirming agent. Thus it was that photo reconnaissance usually received credit for information originally derived from other sources. Finally, in a stable situation, speed is not as essential as in a moving situation, so that there was time to check information and accept the time lag, usually amounting to several days, of photo interpretation reports.

The above remarks are in no way intended to minimize the significance of the photo reconnaissance contribution to the Army's intelligence. The wide coverage and completeness of aerial photographs ("frozen memory") are invaluable to the ground commander, often in ways which do not fit into a statistical study. Negative reports, such as those indicating that the Germans were not fortifying the high ground and that no reinforcements were moving up, were extremely valuable. Isolated findings, such as the discovery of the two trails which permitted the French to plan and execute a bold attack over the Petrella Massif, can hardly be given a specific value, but were clearly a very important contribution of Allied intelligence. Thus, while care should be exercised in examining the contribution of photo reconnaissance, it does

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appear that it was a very important source of information for the ground forces.

Visual or tactical air reconnaissance, which has not been mentioned frequently above, was, for several reasons, of limited value in the situation under discussion. Most visual reports came from aircraft engaged in the interdiction effort, and so tended to give information on road and rail conditions, traffic, and general German movements in the far rear. There were some reports on the location of antitank guns, self-propelled guns, tanks, and artillery units on the road, but these were usually far behind the front line, so that the information was of no immediate use. This type of information is far more useful in a moving situation.

Next to photo reconnaissance, prisoners-of-war were the best source of information. They were the primary source of information on order of battle, and they were important in the location of the various infantry weapons. They were not always reliable, and their information was often not up to date or accurate. What is more, most of the prisoners were enlisted men or low-ranking officers, who knew little outside their own small area. In spite of such drawbacks, however, prisoners proved essential contributors of information, particularly to front-line units.

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Ground observers, including artillerymen, infantrymen, and armoured personnel, seem to have contributed a disappointingly small share of the information, at least according to the records available to us. German camouflage, reluctance of the Germans to fire their weapons, and general inactivity may account for this, but it seems probable that there was a great deal of information at the lower echelons, battalion and company, which does not appear in the records. Similar comments and explanations are applicable to the contribution of piper cubs. In addition, and in spite of close infantry-artillery relations, there was, on this front, the problem of transmitting information from artillery to infantry. The records do not show that agents and civilian informants figured prominently as sources of information, but, since agent contributions were usually disguised to conceal source, it is likely that they were used more than the records show. The Fifth Army G-2 intimates that they were. Records of radio intercepts were not available, so that we could not estimate the value of this source, which the Germans found to be a very useful one.

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## Summary

The overlay reproduced in Appendix B serves as an excellent visual summary for the static-situation intelligence discussed above. It graphically reveals the contributions of the various sources of information, particularly the great significance of aerial photography, which covered the entire area from front line to rear. The lack of records for the F.E.C. sector explains the relative bareness of that sector in the overlay, but it does not hide the fact, thanks to photo reconnaissance, that the Germans did have a lightly-held area in the mountains. The different use of POW information between the 85th and 88th Divisions is clearly shown. Apart from artillery positions, there is little or no information on the area about three or four kilometers from the main line of resistance. Yet, while this intelligence picture is by no means complete, it is far more complete in many ways than any available for the fluid situation.

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PART III

THE FLUID SITUATION, 11-21 MAY

General Intelligence

The Allied attack, preceded by a very short but intense artillery preparation, jumped off at 2300, 11 May. On the Fifth Army right flank, the F.E.C. drove forward quickly, and within two days had smashed through the vaunted Gustav Line. II Corps, on the left, encountered stiff resistance from the 94th Division, and it was not until the night of 13 May, when that division was ordered to withdraw, that II Corps was able to advance significantly. Both corps then pushed ahead, and at times lost contact with the fleeing Germans. By 19 May they were astride the Itri-Pico Road, which was their objective according to Fifth Army plan. II Corps advanced 18 kilometers, at a rate of 2 per day, while the F.E.C. advanced 28 kilometers, at a rate of about 3 per day. II Corps and the F.E.C. continued to push on, and by 25 May they had linked up with the Anzio forces (VI Corps) and were pressing toward Rome. While the rate of advance might not seem rapid, it was so for the Italian theater, and its rapidity vastly affected the intelligence situation.

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During the advance, Allied intelligence, in addition to the usual intelligence requirements, was particularly interested in learning German reactions to the Allied attack. Though aware that the French had cracked the Gustav Line, G-2 was not aware of the great disorganization on the German "side of the hill," and did not know whether Kesselring would try to hold the 94th Division sector as an anchor and attempt to restore the situation in the 71st sector, or whether he would pull back the entire line. In spite of efforts to hold, the Germans, to the surprise and relief of II Corps, quietly withdrew the 94th Division during the night of 13-14 May, after its stubborn defense in the southern sector. Thereafter, Allied forces had a difficult time maintaining contact with the Germans. For a while it was believed that they might make a stand on the Senger Line; but they were unable to stem the Allied momentum and continued to retreat toward Rome.

## OB Information

The rather complete and accurate order-of-battle intelligence which the Allies built up during the static situation was not duplicated for the fluid one. Although G-2 did attempt to maintain a current OB record, it became difficult to do so because of the speed of the German retreat as well as several other factors. The front-line units of the 71st Division were quickly

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smashed by the French, and lost most of their fighting capability. The German command, painfully aware of this situation, grouped the remnants of the broken battalions into combat groups or task forces named after their commanders, and employed them as new units. But German soldiers, probably unaware of this innovation, continued to report, when captured, that they belonged to their original units, which led G-2 to note that such units were still in the line. The Germans also created, on the spur of the moment, composite battalions made up of cooks and bakers, etc. These makeshift units, which were of varying, usually very low, fighting capability, were thrown into the line to stop the Allied advance. Engineer battalions and noncombat units, such as supply and motor companies, were also committed to battle. Finally, reserves were rushed up and thrown into the line as they arrived, sometimes a platoon at a time. Because of these German tactics, it was almost impossible to keep an accurate and meaningful account of the German order of battle.

Figure 6, which gives the Allied information on German OB, includes only infantry, and reconnaissance units used as infantry, and covers the first three days of the attack. After 14 May, this kind of OB record had little relation to actual events. During those three days, the German 94th Division held quite firmly, with the consequence that Allied intelligence in that sector remained fairly

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good. But in the 71st sector, though G-2 continued to identify the units of this division and new enemy reinforcements, it never became aware of the existence of the novel task forces. By 14 May, there appeared to be four task forces in the area of the 71st Division: Task Forces Nagel and Rumohr, composed of elements of 191st, 194th, and 211th Regiments; Task Force Behr, including elements of the 200th Panzer Grenadier Regiment and unknown units; and Task Force Voelker, composition unknown. Radio intercept could have picked up these formations, but, if it did, the information apparently never reached Fifth Army or its units. After 13 May, the 94th Division withdrew, and the ensuing hasty retreat all along the line, with its shuffling of units and gradual commitment of units of new divisions, made the order of battle complicated indeed. On 14 May, for example, the Germans had 24 battalions in line. Twenty were identified by Fifth Army G-2, but only 4 were even approximately placed. If all available information had been used properly, 23 battalions could have been identified, and some of them placed, though their location might have been out of date as a result of time lag in POW information.

On May 21, 14 of 22 line battalions were identified, but only 4 were placed correctly. Of 16 reserve battalions, only 4 were identified and none was placed. The large number of reserves was due to the arrival of units from divisions formerly in northern Italy.

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ALLIED INFORMATION ON GERMAN OB, 12-14 MAY 1944

	<u>Actual Bns.</u>	<u>Identified</u>	<u>Placed</u>
<u>12 MAY</u>			
Line Battalions	19-22 <sup>a</sup>	19	11
Tactical Reserves	0	0	0
Regt. CP's (for above two)	7	7	1
Division (Hqrs)	3	3	0
Rear Reserves	9	2	0
<u>13 MAY</u>			
Line Battalions	23	18-19	8
Tactical Reserves	8	2	0
Regt. CP's	8	8	0
Division (Hqrs)	3	3	0
Rear Reserves	1+		
<u>14 MAY</u>			
Line Battalions	24	20	4
Tactical Reserves	7	1	0
Regt. CP's	8	8	0
Division (Hqrs)	3	3	0
Rear Reserves	1+		

<sup>a</sup> Three Bns. (200 P.G. Regt. 90 Panzer Grenadier Division), committed either 12 or 13 May, came from Army Reserve and were not included as rear reserves for 12 May -- most of the 90 P.G. Division remained north of the Liri River outside Fifth Army area.

Fig. 6.

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The overlays which we reconstructed but could not reproduce reveal that, on 17 May, the Germans were retreating along two main axes: along Route 7 on the coast, and up the Liri valley in a northeasterly direction. On that day there were, according to Allied and German records, no recognizable German units in most of the mountainous area between the two retreat routes. The next day, the Germans began to cover the gap, with Task Force Maetschke and Task Force Behr closing from the southwest and northeast. This hole in the German line stands out clearly in the overlay, but it was apparently not completely recognized at Fifth Army, though the F.E.C. was dimly aware, it seems, of the "Esperia gap," which the Germans plugged fairly rapidly, if weakly.

#### Reinforcement Identification

An important task of intelligence, in a moving situation particularly, is the identification of new enemy units. Figure 7 shows the German reinforcements as committed; it also provides a general idea of the lag time between commitment and identification by Fifth Army G-2. In many cases we knew the time the Allies identified the units, but not the exact time of commitment, so that we could only estimate the delay time.

Of the 36 units listed as reinforcements, we could not, because of lack of information, compute or even

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COMMITMENT OF GERMAN RESERVES  
AND TIME LAG IN IDENTIFICATION, MAY 1944

Unit:	Time Committed by Germans:	Time Identifi- fied by G-2:	Estimated Time Lag:
2nd Battalion, 115th Panzer	12 May (pm)	13 May	12-24 Hr.
2nd Battalion, 211th Infantry Regiment	12 May (pm)	12 May	6-12 Hr.
2nd Battalion, 276th Regiment	12 May (am)	12 May	6-18 Hr.
171st Engineer Battalion	unknown	14 May	-----
1st Battalion, 276th Infantry Regiment	12 May (pm)	13 May	16-28 Hr.
818th Engineer Battalion (Corps troops)	unknown	14-15 May	-----
5th Panzer Grenadier Regiment (90th Panzer Grenadier Division) 3 battalions	12-13 May	14 May	24-48 Hr.
115th Panzer Reconnaissance Battalion (15th Panzer Grenadier Division)	13 May	14 May	12-24 Hr.
2/274 Battalion (Ost)	14 May	unknown	-----
3rd Battalion, 104th Panzer Grenadier Regiment (15th Panzer Grenadier Division)	16 May (0600)	17 May (night)	36-42 Hr.
305th Fusilier Battalion (305th Infantry Division)	16 May (pm)	17 May	12-24 Hr.
2nd Battalion, 104th Panzer Grenadier Regiment	16 May	17 May	12-24 Hr.
1st Battalion, 104th Panzer Grenadier Regiment	16 May	17 May	12-24 Hr.
334th Fusilier Battalion	18 May	18 May	6-24 Hr.
616th Ost Battalion	unknown	17 May	-----

Fig. 7

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Unit:	Time Committed by Germans:	Time Ident- ified by G-2	Estimated Time Lag:
361st Infantry Regiment (90th Panzer Grenadier Division)	unknown	17 May	-----
305th Reconnaissance Battalion (probably same unit as 305th Fusilier Battalion)	unknown	18 May	-----
44th Division (took over between 94th and 71st Divi- sions)	18 May	19 May	12-24 Hr.
618th Ost Battalion	unknown	18 May	-----
1st Battalion, 9th Panzer Grenadier Regiment	17-18 May	18 May	6-12 Hr.
2nd Battalion, 9th Panzer Grenadier Regiment	18 May	18 May	3-6 Hr.
67th Panzer Regiment (26th Panzer Division)	18 May	20-21 May	36-72 Hr.
400th Reconnaissance Battalion	19 May	19 May	6-24 Hr.
26th Reconnaissance Battalion (26th Panzer Division)	19 May	19-20 May	6-24 Hr.
94th Transportation Battalion	unknown	19 May	-----
1st Battalion, 67th Panzer Regiment	19 May	unknown	-----
1st Battalion, 134th Regiment (44th Infantry Division)	20 May	22 May	36-48 Hr.
1st Battalion, 577th Infantry Regiment (305th Infantry Division)	20 May (?)	20 May (?)	6-12 Hr.
1st Battalion, 578th Infantry Regiment (305th Infantry Division)	20 May (?)	20 May (?)	6-12 Hr.
433rd Construction Battalion	unknown	21 May	-----

Fig. 7 (cont'd)

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Unit:	Time Committed by Germans:	Time Ident- fied by G-2	Estimated Time Lag:
334th Reconnaissance Battalion (334th Infantry Division)	unknown	21 May	-----
2nd Battalion, 71st Panzer Regiment (29th Panzer Grenadier Division)	21 May	22 May	12-24 Hr.
1027th Panzer Grenadier Regiment	21 May	22 May	12-24 Hr.
15th Panzer Grenadier Regiment (29th Panzer Grenadier Division)	21 May (pm)	22 May (pm)	20-30 Hr.
1st Battalion, 4th Panzer Regiment	21 May	unknown	-----
103rd Reconnaissance Battalion	unknown	22 May	-----

NOTE: By 20 May, the 15th Panzer Grenadier Division and 26th Panzer Division had relieved the 71st and reinforced the 94th.

Fig. 7 (cont'd)

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estimate a time lag for 13. Of the remaining 23 units, 18 appear to have been identified by Allied G-2 within twenty-four hours of their commitment, while 5 were identified in from twenty-four to seventy-two hours after commitment. Thus, from this small sampling, it appears that the chances were three to one that a reinforcement would be identified within twenty-four hours of commitment. While this seems rather good, it should be borne in mind that it would have been helpful to know the whereabouts of these units before they were committed; in this endeavor, the Allies were notoriously weak.

On almost no day of the offensive did the G-2 overlay at Fifth Army make use of all the information available. Ther reasons for this are not known. Also, there was a tendency only to add units, never to drop them. The overlay consistently carried units which never appeared in the German records, such as the 171st Replacement Battalion, a battalion of marines, and the 194th Engineers Battalion. Thus, on one day, the overlay carried over eighty German battalions, although, ccunting all the composite battalions and the units of all divisions involved in all the stages of the offensive, the Germans never had that many. It is, of course, difficult to determine quickly and definitely when a unit has been withdrawn, but unless that is somehow done, the order of battle loses some meaning.

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Artillery Intelligence

Information on German artillery became scarce and out of date during the rapid advance of the Allies during 14-21 May. Whereas a number of locations -- the greatest number, in fact, for any one day -- were reported for 13 May, many of them, mostly in the F.E.C. sector, were in areas already overrun by Allied troops and obviously out of date. There were some reports of new artillery positions northwest of Mount d'Oro on 14, 15, and 16 May, and particularly on the 15th, but only a few German units made a temporary halt in that area. There may have been other short halts known to the front-line troops, but higher headquarters were not aware of them. During the period 14-19 May, the German artillery was largely on the move, relatively slowly, since all of the artillery of the two line divisions was horse-drawn. During the fluid situation, the Germans were compelled to rely on their few self-propelled guns and tanks for artillery fire, though the delaying action was fought largely without artillery support. The main axes of retreat for the artillery were the same as for other units: the Liri valley and Route 7. On 15 May, photo reconnaissance reported heavy northward traffic in both areas. As early as 15 May, II Corps Artillery was making numerous deletions from its lists, and on 19 May it invalidated all its lists of artillery positions without pinpointing new locations; it thus confessed that all its

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information was out of a single German position. This was in part due to the fact that the German artillery had retreated in a northerly direction, in order to avoid being trapped against the coast and thus forced to withdraw into the French sector. However, continuous withdrawal was the most significant limiting factor. The French artillery commander reported that the rapidly moving situation made it impossible to locate artillery areas precisely, though the 13th Field Artillery (FA) Brigade, which acted as corps artillery command of the F.E.C. Artillery, continued to produce active battery lists. On 20 May, the French began to locate German positions again, since the enemy artillery had stopped retreating and had gone into position on both sides of the Liri River above Pontecorvo, roughly 20 to 25 kilometers from their positions of 11 May.

The German records reveal the great losses suffered by German artillery in this campaign. The most severe losses were suffered in the first couple of days, when the Germans quickly disengaged and fled. Figure 8 shows the losses between 11 May and 20 May. The Germans had 161 guns in 16 battalions on 11 May; less than ten days later, they had only 53 pieces, and some battalions had no guns at all. About 20 May, the artillery of the 26th and 90th Divisions took over and controlled what was left of the artillery of the 71st and 15th Divisions. While Allied intelligence did not have such exact information, and perhaps did not

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GERMAN ARTILLERY UNIT STRENGTHS

Unit	12 May Strength	20 May Strength
194th Artillery Regiment (94th Division) -- horse-drawn		
1st Battalion	13	3
2nd Battalion	13	0
3rd Battalion	22	9
4th Battalion	no data	no data
171st Artillery Regiment (71st Division) -- horse-drawn		
1st Battalion	12	0
2nd Battalion	10	0
3rd Battalion	11	0
4th Battalion	4	3
33rd Artillery Regiment (15th Panzer Grenadier Division) -- motorized		
1st Battalion	16	11
2nd Battalion	9	0
3rd Battalion	8	2
2nd Battalion, 557th Regiment (Corps)	8	6
733rd Artillery Battalion (Corps)	9	6
3rd Battalion, 305th Artillery Regiment (305th Division)	9	6
3rd Battalion, 96th Artillery Regiment	9	0
2nd Battalion, 96th Artillery Regiment (44th Division)	<u>8</u>	<u>7</u>
Total Pieces	161	53
Following units put in line about 19 May:		
93rd Artillery Regiment (26th Panzer Division <u>3</u> Battalions)	Not in line	30 (est.)
190th Artillery Regiment (90 Division <u>3</u> Battalions)	Not in line	30 (est.)
450th Artillery Battalion (Corps)	Not in line	7

Fig. 8

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fully realize the losses of the German artillery, it was aware of the weakened German artillery situation. The Germans had suffered losses of artillery pieces through destruction and, in addition, had been forced to leave behind numerous guns, usually the foreign ones that they had pressed into service.

## Weapons Information

During the quiet before the Allied attack, G-2 had been able to build up a fairly reliable and comprehensive picture of the German defense, including the position of weapons; but in the fluid situation there was no time -- nor, apparently, was the effort made -- to keep account of the German machine-gun, mortar, and other weapon positions. The reports we found were so scattered, so few dealt with weapon positions, and so many were out of date when compiled, that it was not worth while to keep count of them. Again, as in other cases, lower echelons were probably better informed about front-line developments than were higher headquarters, but their information was apparently so ephemeral that it was not worth recording or sending back to headquarters to be recorded. G-2 did not appear to be aware of how many weapons had been destroyed or lost by the Germans, and they do not appear to have evaluated, perhaps because of time limitation, the weapon system in the defeated and broken German units.

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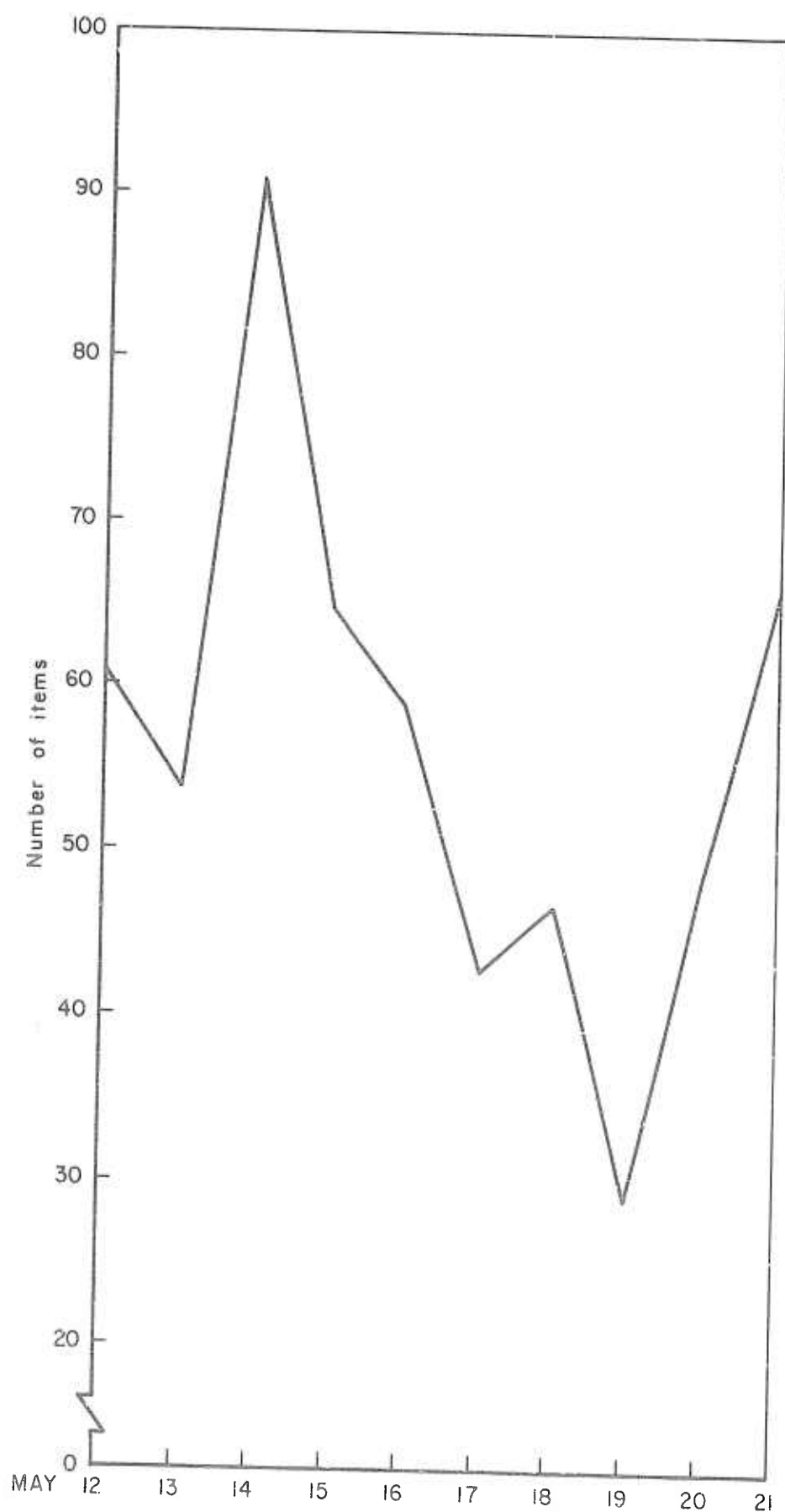
Some information that would have been extremely valuable seems to be missing at all levels, if the records reveal even an appreciable portion of the complete picture. At no level did we discover more than one or two references to the location of CP's and headquarters. On 18 May there were six German division headquarters in Fifth Army area. But none of their locations, according to the records, was known to Fifth Army G-2. Nor were regimental or battalion CP locations, known, except in a few instances. Further -- and this point has been touched on earlier -- the Allies were generally ignorant of the movements of German reinforcements until they made contact with them in the line. Once the near reserves had been committed, on 12 May, the Allies had little or no information about reserves in the area or about units coming from the north. One gets the general impression that Allies and Germans both were suffering from widespread ignorance about each other, and even about their own respective positions.

However, in order to give some notion of the information coming in at corps level, we have made up a daily chart showing the type of information presented, and its source. This appears in Appendix A. Figure 9 shows the drop in the available information as the offensive continued. Each item of information was counted, although one agency or source may have provided several pieces of information at one time. One may note that the number of reports went

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Items of information received by II Corps  
12-21 May 1944

Fig. 9.

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almost steadily down after the offensive got well underway, and reached a low ebb on 19 May, which was the sixth day of the German disengaging action. The temporary hesitation on the part of both attacker and attacked at this time permitted some improvement in the amount of information for 20 and 21 May.

Intelligence at the lower echelons, regiment and below, varied from that at corps in its nature and, to some extent, in its sources. Relatively little information about such intelligence is now available. At these levels, there were attempts to locate German weapon positions, and in regimental and battalion records there are locations of machine guns, mortars, artillery, tanks, and antitank guns, as well as enemy units. The limited availability of information on the lower levels is due primarily to the poor quality or nonexistence of many of their records. As in the case of corps, however, information became scarcer as the Germans retreated. The regimental journals for 16 and 17 May show that few weapons were located, and they indicate that there was only some general knowledge of what the German units were doing. Observation posts reported that, because of the flexibility of the situation, it was difficult to make definite identification of vehicle movements as friendly or hostile. Prisoners-of-war were again the most important source of information, with ground observation also contributing a considerable amount.

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Information derived from visual reconnaissance did not go directly to lower units, but probably accounts for some portion of the intelligence which came from higher headquarters. Intercepted radio messages were sent to lower echelons and were identified as such. We have made a source-and-quantity study of the intelligence available at regimental level. (See Figure 10.) The information was obtained from the unit journals and histories. A more complete study could have been made by examining texts of telephone messages and other documents, but we did not have time to go into such detail.

## Air Force Intelligence Needs

While it was generally recognized that the Air Force was a source of information for the Army, the converse was not always true. It does not appear from the records that the Army fully considered or recognized the Air Force intelligence needs. For instance, it is quite obvious that POW reports telling of the routes taken by reinforcements or supply columns were important to the Air Force interdiction effort. Air reconnaissance could have been easily and usefully supplemented by POW information. Also, POW reports on damage from air attacks in many ways was more complete than that derived from air reconnaissance. POW's could report, for instance, which detours were being used, or which routes were fully blocked. In another

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TOTAL INTELLIGENCE FOR SIX REGIMENTS OF 85TH AND 88TH DIVISIONS, 12-15 MAY

12 MAY	OB	Loca- tions	MG	Arty.	A/T	Mortar	Fortif. Mine- fields	Tanks	Inten- tions	Vehicle	Misc.	Totals
POW	27	15	3	5	2	4m	7	0	7	2	1	73
Ground (OP) (recce)	0	8	2	3	0	0	4	3	4	0	1	25
Adjacent Units	3	7	0	1	1	0	0	1	2	0	2	17
Higher Hq.	4	0	0	0	0	0	0	0	3	0	0	7
Others	0	0	0	0	0	0	0	0	2	0	0	2
Total	34	30	5	9	3	4	11	4	18	2	4	124
13 MAY												
POW	16	17	0	3	2	0	7	1	3	0	0	49
Ground	0	3	1	1	5	1	2	3	1	1	0	18
Adjacent Units	8	5	0	0	5	0	2	2	1	5	0	27
Higher Hq.	1	0	0	0	0	0	0	0	2	0	0	3
Others	0	0	0	0	0	0	0	0	8	0	0	8
Total	25	25	1	4	12	1	11	66	15	6	0	105

Fig. 10

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14 MAY	OB	Loca- tions	MG	Arty.	A/T	Mortar	Fortif. Mine- fields	Tanks	Inten- tions	Vehicle	Misc.	Totals
POW	24	11	2	2	1	0	6	0	5	0	0	51
Ground	0	6	1	1	1	0	1	2	2	2	0	16
Adjacent Units	7	1	0	2	0	0	0	0	0	0	1	11
Higher Hq.	4	0	0	2	0	0	1	0	4	0	0	11
Others	0	0	0	0	0	0	0	0	3	0	1	4
Total	35	18	3	7	2	0	8	2	14	2	2	93
15 MAY												
POW	38	8	6	10	10	2	14	0	4	0	0	92
Ground	0	6	0	4	0	0	2	3	0	0	2	17
Adjacent Units	2	0	0	0	0	0	1	0	1	1	0	5
Higher Hq.	2	0	0	0	0	0	1	0	5	0	0	8
Others	0	0	0	0	0	0	2	0	1	0	0	3
Total	42	14	6	14	10	2	20	3	11	1	2	125

Fig. 10 (cont'd)

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field, POW's might have been able to report whether a CP or similar installation had really been hit by air attack, while air reconnaissance could only indicate that a certain area had been hit, without being able always to tell whether there had been a CP in that area. So it would appear that Air Force interrogation of POW's, or at least the submission of Air Force questions to Army interrogators, might have increased the total amount of information, might have obtained some information specifically useful to the Air Force, and might have speeded the transmission of information from Army to Air Force. While POW information probably would have been most useful to the Air Force, the reports of civilian informants, agents, and deserters might also have been valuable if the needs of Air Force intelligence had been considered. Fifth Army G-2 maintains that Army intelligence was passed on to the Air Force, but there is no evidence that the Air Force itself, or the Army, made a particular effort to tap these primarily Army sources for Air Force intelligence.

#### Sources

The significance of the various sources of information changes from the static to the fluid situation. Aerial photography, which had been the most important source in the static situation, was considerably less important in the fluid. The daily tabulation at corps shows that it

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was almost a negligible factor. One might suspect at first that the time factor would explain this change, and Fifth Army G-2 did say just that. However, a study of the Fifth Army Photo Interpretation Reports for May showed that, in many cases, the sorties of a particular day were analyzed and reported on the following day. What is more, the rate of Allied advance and German retreat was not so swift that all the locations were invalidated, particularly since aerial photography was concerned with areas well behind the front, which were less quickly affected by front-line shifts. However, in a fluid situation, rear areas are less likely to be "set" installations or positions of the kind that can be easily picked up by aerial photography. Movements of men, weapons, and vehicles, while generally important, do not provide the specific positions which photo reconnaissance is able to detect in a static situation. Figure 11 includes few weapon positions, except for artillery, and is more concerned with the static elements of the battle. It gives the type of information reported in the daily reports, and the date of the sorties from which the information is taken.

The reports gave the sortie and its date and the coordinates of the locations, so that G-2 could tell fairly quickly what information was useful. But Fifth Army G-2 considered the time lag too great for the information to be valuable. However, in view of the fact that, in many cases,

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FIFTH ARMY INTELLIGENCE FROM PHOTO RECONNAISSANCE 13 - 22 MAY

Date of Report	Artillery		Fortifications (Minefields, Wire, AT Guns, etc.)	AA		Roads Bridges	Military Activity	Remarks
	Occ.	Prev. Occ. Now Unocc.		Occ.	Now Unocc.			
13 May	5	2	0	2	1	4	7	Three sorties, Two 12 One 10 May
13 May	1	2	15	6	2	3	5	One sortie, 12 May
14 May	6	6	0	0	2	2	0	One sortie, 11 May
14 May	0	0	2	5	0	0	3	Two sorties, One 11 One 13 May
15 May	3	0	3	7	5	6	2	Three sorties, Two 14 One 13 May
16 May	4	0	4	2	1	4	4	Three sorties, 15 May
16 May	1	0	9	0	0	1	0	One sortie, 15 May
17 May	2	2	0	4	0	3	4	Three sorties, 16 May
17 May	1	0	0	3	1	0	0	One sortie, 16 May
18 May	6	0	10	4	2	10	1	Three sorties, Two 17 One 15 May
19 May	0	0	5	0	0	4	5	One sortie, 18 May
22 May	0	0	7	2	1	6	13	Five sorties, 21 May
22 May	1	0	4	0	0	2	3	One sortie, 21 May

NOTE: No reports for 20 and 21 May since no sorties previous days. Seven reports on fortification for 22 May include about 44 machine-gun positions.

These sorties were flown primarily for the southern front of Fifth Army. VI Corps (beachhead) had its own detachment.

Fig. 11

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reports were made within one or two days of the sortie, and given the rather slow advance of Fifth Army (1-2 miles per day), information on artillery positions, fortifications, and other military activity would have been usable.

Tactical reconnaissance appears to have been a more important source in the mobile situation than in the static. Information on road traffic is more important in a moving battle, since it is likely to reveal lines of retreat or movement of reserves. There is some difficulty in a fluid situation in determining whether vehicular traffic is hostile or friendly; even ground observers have this problem. It is clear from the corps records that this kind of information was important. Determining the position of weapons in the rear areas also becomes more important as the front moves. Visual reconnaissance gains importance in a fluid situation because it is a reasonably quick way of getting and transmitting information. Specific information can be passed on to the ground forces immediately upon debriefing of the pilot, sometimes even while he is still in the air. Although statistics can be offered to show the contribution of visual reconnaissance, it was clearly considerable.

Perhaps the most important source of information was the POW. A quotation from the 349th Regimental History illustrates this point;

The most valuable source of any information proved to be the P/O/W reports made by the MIS /Military

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Intelligence Service/ officer attached to the Regiment. He accompanied the forward CP and either personally or through his assistants interrogated all P/O/W's soon after their capture. It was his experience that practically all P/O/W's talk freely, particularly the Polish prisoners. Officer prisoners proved more difficult to interrogate. Cases where any P/O/W refused to divulge any information were very rare.

Figure 12 gives the information obtained from POW's by the 349th Regiment; there were no reports for 15-19 May, since the regiment was then in reserve. The POW was particularly helpful in supplying information on order of battle and location and strength of enemy units, as well as on various weapons, minefields, and other miscellaneous subjects.

Since POW's were such an important source of information, it seemed important for us to determine the time lag from capture to arrival of information at the various headquarters. The initial interrogation was conducted at regiment or division, and some of the information was then sent to higher headquarters. The information was received almost immediately at regiment and/or division, but this was not true, of course, for higher headquarters. One should keep in mind also that much of the POW information was perhaps twenty-four hours old when the prisoner was captured. Therefore, the time lag in transmission is only one factor in determining the timeliness of POW information, but it is also the only one that can be controlled to any extent.

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## POW REPORTS OF 349TH REGIMENT

MAY	12	13	14	20	21	22
OB <sup>a</sup>	1	3	1	1		2
Location of Units	1	2	4	1	2	2
Strength of Units	1	1	3	1	2	3
CP's	1		1			1
Artillery	1	1			1	1
Tanks						1
Mortars						1
Fortifications	1					
Minefields		1	2	1		
Road Traffic		1				
Intentions	1	1	1	1	1	
German Signals	1					
Info on Bridges			1			
Equipment		1				

<sup>a</sup>If only location or strength of unit to which the POW (or POW's) belonged was given, the item was not repeated under OB.

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An analysis of the records for 34 groups of prisoners comprising 410 prisoners, during the first four days of the Allied offensive, gives the following average time lags:

Time from capture to interrogation (regiment or division) -- 3 hours, 52 minutes.

Time from capture to arrival of information at Corps -- 7 hours, 12 minutes.

Time from capture to arrival of information at Army -- 11 hours, 13 minutes.

The shortest elapsed time between capture and interrogation was 30 minutes on 13 May; the longest was 8 hours and 20 minutes on 12 May. The shortest time from capture to information at Corps G-2 was 1 hour and 40 minutes (achieved on two occasions); the longest was 11 hours and 45 minutes (also twice). The shortest time from capture to information at Army G-2 was 4 hours and 15 minutes, and the longest was 18 hours and 20 minutes. These figures are based on a fairly small sampling and on a short period of time, but they do perhaps give an idea of the time lag involved in the transmission of POW information.

A much more comprehensive and careful interrogation of prisoners-of-war was carried out at Army level, where POW's were questioned on a much broader range of subjects than had been the case in lower-level interrogations. Besides further questioning on battlefield matters, they were also examined on supply lines, routes of units from Germany and Russia to Italy, rear installations, and other such matters. A formal report on such interrogations was

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published by Fifth Army, usually three to fifteen days after the capture of the prisoners. It appears that this information got to the lower echelons only indirectly and very slowly. A large amount of it, of course, was of little interest to the front-line units.

Though we were not able to see U.S. Army radio intercept records, there were fairly frequent references in the regular records to intercepted messages. Almost all of these messages were concerned with the tactical intentions of the enemy, and almost all were reported to Corps. A detachment of the 128th Signal Company was apparently attached to II Corps; it sent reports of intercepted messages directly to Corps, which then sent the various reports to the appropriate units. Usually, the messages told of enemy attacks or withdrawals, and they occasionally referred to Allied moves. The interception system seemed to work quite well and swiftly; many reports reached interested units in time for them to take proper measures. It appears that such reports were quite important in the fluid situation. However, we were not able to determine what other types of information the radio intercept units obtained.

We were able to make a study of German radio intercepts, which may give a fairly good notion of what the Allies were able to accomplish against the Germans. In Italy, monitoring was carried out by the German 7th Signal

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Intelligence Regiment, which was attached to Army Group C, the highest German ground forces command; its subordinate units were attached to Army, Corps, and Division headquarters. The only records of intercepts available to us were those of the Short-Range (Tactical) Signal Intelligence Platoon "Marie," which was attached to XIV Panzer Corps.

This detachment was primarily concerned with intercepting front-line radio traffic, particularly air-ground communications, between units of the Fifth Army and its subordinate commands, the U.S. II Corps and the F.E.C. However, radio traffic of neighboring Eighth Army units, primarily those in the Cassino area, was also monitored. A daily report of intercepts (Funklage-Meldung) was prepared by the Signal Platoon, and a copy was sent to the Ic (G-2) of XIV Panzer Corps. This report was dated the day following the interceptions, but important and urgent information was communicated directly and immediately to the Ic of the division concerned.

The intercept report nearly always gave the frequencies of the channels or nets on which the messages were heard, with as much information on the identity of the unit as the Germans had available at the moment. For example, the report would say that a certain message had been intercepted on 1975 kc. (information net of Fifth Army) or on the channel used by an American artillery brigade

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stationed in the F.E.C. sector. In some cases, messages were reproduced verbatim, and gave the time of the conversation. In other cases, only summaries of the messages were given, with an indication of their nature and probable meaning.

A very large part of the intercepts were reports of air OP's concerning the location of German artillery and movements of troops and supplies. Many messages pertained to orders to fire on such targets. Judging by the volume and nature of the intercepts (those listed in the daily summaries were, after all, only samples), it appears that the Germans obtained, even during the fluid situation, a fairly accurate and comprehensive picture of the information that Allied forces had gained through aerial and other types of observation. To what extent, however, this counterintelligence information gathered by the monitors could have been and was used by front-line commanders for counter-or evasive action is impossible to tell, since the pertinent records are not available. It seems that in most cases the information came down to the commanders concerned too late for them to move guns or convoys out of Allied artillery range. One exception was a telephone conversation in which a German artillery commander indicated that he had been informed of intercepted messages pertaining to Allied fire on his guns. Asked whether he had taken evasive action in time, he replied in the

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affirmative and added: "We are moving our guns all the time, anyway."

A special study (German Radio Intelligence Corps), prepared for the Office, Chief of Military History, by Albert Praun, casts some light on this general problem. It reveals that the Germans established a central evaluation center and broadcasting station which sent ciphered reports of intercepted messages to the lower units very quickly. Praun claims that units were informed of, and able to prepare for, artillery or air attack in time to avoid excessive casualties. He also maintains that the air liaison nets (from air liaison officers with divisions to air corps units and planes) were easier to intercept than ground communications among ground units. Furthermore, by intercepting the messages of reconnaissance and attack planes, the Germans were able to determine the area of attack and the line of advance.

Praun also points out some interesting slips, which were of great assistance to the Germans. On one occasion, the British mentioned that rum would be passed out on a certain day; since it was British practice to give rum on the day of attack, the Germans learned the date of the expected attack. On another occasion, a Frenchman, by unnecessarily speaking of his anticipated amorous adventures in Naples, indicated the existence of French units in a sector where none had been located by the

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Germans. Praun suggested that radio silence was the most effective way of preventing information from getting to the enemy; the Allies practiced this before landings, but not always before ordinary attacks.

Our study of the German records indicated that radio monitoring was very useful also in German OB intelligence. During the static situation, German monitors had been able to pick up the code names of many Allied units facing them and thus establish their location or change of location. This was true especially of French units, whose signal security evidently was more lax than that of United States troops. (Praun came to the same conclusion.) We attempted to demonstrate how much the Germans were able to learn from recognition of code names about the identity and location of two Allied divisions: the French 3rd Algerian Infantry (D.I.A.) and the U.S. 88th Infantry.<sup>5</sup> The period covered extends from the end of April to 23 May 1944. The tables compare German intelligence and actual situation of these two divisions for amount of information and time lag.

As can be seen from Table I in Appendix C, the Germans obtained rather accurate information about the location of the Third Algerian Division and about its subsequent movements, from the end of April, when it was

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<sup>5</sup>See Appendix C.

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training in the rear area, to 23 May, when part of its sector was taken over by the Second Moroccan Infantry. From intercepted messages, the Germans concluded correctly that the 3rd D.I.A. was carrying on maneuvers in the area north of Salerno. Two towns, Casale and Colliano, were mentioned as locations of division and regimental CP's, although the identity of the units occupying them was not quite correctly ascertained. The abrupt cessation of radio traffic on 5 May led the Germans to assume that the division was moving, a correct assumption in so far as two of its infantry regiments were concerned. After the beginning of the Allied offensive on 12 May, the infantry and artillery units of the 3rd D.I.A. participating in the attack were quite quickly identified and located.

One error arose from the Germans' practice of inferring the identity of units from the names of officers on whom they had information in their files. The Germans had compiled a card index of Allied officers, which they steadily expanded by entering in it the name of each new officer mentioned in an intercepted message. The trouble with this procedure was not only that there were many mistakes in the record of original assignment, but also that few corrections were made for changes in assignment. As a result, the Germans were prone to conclude from the appearance of an officer's name in a radio dispatch that a certain unit was in action when, in fact, the officer was

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no longer with that unit. By the same token, when a certain officer and a new unit were mentioned together in an intercept, the Germans would jump to the conclusion that the officer had been transferred. For example, Lt. Col. LeBlanc was listed as the CO of the 63rd African Artillery Regiment, a unit of the 2nd Moroccan. When his name was mentioned in a message to the 3rd D.I.A., the Germans concluded that he had been transferred to that division. Actually, LeBlanc was, at that time, commander of the 1st Group of Tabors (Goums), which, as a part of the Mountain Corps of the F.E.C., operated on the left flank of the 3rd D.I.A. It is therefore likely that LeBlanc frequently addressed messages to that division.

Table II in Appendix C indicates that the Germans obtained considerably less information on U.S. formations through radio monitoring. Code names of the 88th Infantry Division, one of the two major formations of the II Corps, were not picked up until 14 May, and even then the Germans were quite confused regarding the identity of the units concerned, mistaking the code names of 88th Division infantry regiments for those of artillery units. The mistake was partly corrected two days later, when the units LEADER and LEGGING were identified as infantry regiments. One of these, the 349th Infantry, actually had the code name LEATHER, but it is possible that the "th" was mistaken for a "d." In no case, however, even during the

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following days, were the Germans able to discover the numerical designation of the units whose code names they had picked up as belonging to the 88th Division. On the other hand, the approximate location of the division, between the F.E.C. in the north and the 85th Division in the south, was confirmed relatively early, on 16 May.

These defects notwithstanding, it appears that the Germans made good and skillful use of radio monitoring for intelligence purposes. They had experienced operators, well versed in detecting signs in Allied traffic which might give a clue to the appearance of new units. For example, handling of communications by inexperienced operators often suggested a newly-arrived unit. The German operators also had sufficient language training to spot and recognize different accents. Radio intercepts probably could have been of even greater usefulness to the Germans if they had had a chance to take more Allied prisoners to verify and amplify the information they obtained.

Ground intelligence agencies, such as observation posts, patrols, and front-line observation, were much more important to the lower echelons than to the higher, which were normally less concerned with the details of front-line intelligence. A comparison of the contribution of the various sources at regimental and corps level demonstrates this point. In a fluid situation, front-line

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units are apt to be the best-informed, since their most important sources provide more immediate information and indicate changes more quickly than do those that are important for higher echelons; the latter also tend to involve longer time lags. In this particular campaign the loss of contact with the fleeing Germans probably reduced the contribution of ground observations.

Miscellaneous agents, such as civilian informants, agents, and underground movements, provided little information that was useful in this offensive drive. Civilians, on occasions, did provide some general information on enemy numbers, direction of flight, and morale, but it was uneven in flow and accuracy.

This study shows how the amount of information declined as the war of movement continued, and how the importance of various intelligence sources changed. One should bear in mind, however, that the study is based on written records, that some of the needed records were not available, and that others could not be studied because of time limitations. Finally, the records seemed less complete for the moving than for the static situation.

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PART IV

GENERAL COMMENTS

Air Force Agencies

The results of this study show that the Air Force was an important collecting agency, and that, for some types of information, it was perhaps the most important. The following tentative conclusions seem to emerge from examination of the static situation.

For II Corps, at least, it appears that aerial photography was by far the most productive source of information about enemy artillery positions, although in an unknown number of instances it was only a confirming agent. Furthermore, it would seem, from the records, that it was also the most important source of information about infantry weapon positions, although the lack of records for lower units, and the failure of the lower units to forward this kind of information to higher headquarters, may partly obscure this fact. However, the rather high percentage of locations of enemy weapons we got would seem to indicate that our totals do include most of the locations, and that ground observation accounted for less than was generally believed. Again, however, aerial photography may, in this slow static situation, also have been used as a confirming agency. Finally, aerial photography was a source of information on enemy fortifications, rear installations,

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enemy movements, and terrain. In the static situation, time was not critical, so that the photographs could be studied carefully and copies and interpretations of them transmitted in reasonable time.

In the fluid situation, the contribution of aerial photography declined severely. The time lag of from one to three days between the sortie and the arrival of the information at Army headquarters largely accounts for this. However, in retreating, the Germans were constantly moving their weapons and artillery; thus, useful confirmation on these items was scarce irrespective of time lags. Photo intelligence was still important for rear installations, and for such other enemy facilities as did not respond to front-line movements frequently or quickly.

The results from visual or tactical reconnaissance in both situations were disappointing, largely, we believe, because the records do not reveal its contribution. The Air Force records at Maxwell Air Force Base do consolidate pilot debriefings and intelligence reports, but for most groups the records are incomplete. The Army records do not show the visual reconnaissance contribution at all. Most observers believe that this kind of reconnaissance was important, and a more careful study might be worth while, although the records may never reveal what is desired.

The Air Force, through its strategic reconnaissance, also contributed to the intelligence of Fifth Army. It

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gave information on enemy traffic in northern Italy, and on the state of the German transportation system and vital communication centers. Time is not as important in strategic as in tactical intelligence, and there is less need for close co-ordination.

Army Agencies

Interrogation of prisoners-of-war was a very important source in both the static and the fluid situations. In both cases, it was almost wholly responsible for information on enemy order of battle, and it contributed significantly to knowledge of enemy weapon positions. There are problems of time, accuracy, and reliability in dealing with POW information, but it was found, on the whole, that German soldiers talked freely and truthfully. Even so, time and accuracy problems remained. In addition to the processing time lag, there was a lag between the time when a soldier got his information and the time he was captured. This was particularly so with regard to subjects outside the soldier's immediate area.

Ground observation, which included artillery observation posts, patrols, ground reconnaissance, and observations by the front-line troops, proved disappointing to the point that we have treated this conclusion with considerable skepticism. One of the major points which S.L.A. Marshall made (and perhaps overemphasized) in

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The River and the Gauntlet was that lower echelons do not forward information to higher units as regularly and quickly as they should.<sup>6</sup> When information is not thus forwarded, it tends to disappear, since companies and battalions keep few records. We conclude that a great deal of information known at lower echelons was never recorded and was not therefore available to us. Another methodological difficulty arises from the fact that lower units often have information of an indefinite nature, which is difficult to include in a statistical study and which may already be included in the more formal information known at higher levels. For example, companies are apt to know that a "machine gun is in those bushes," that a "few Krauts were sighted on that hill," that "mortar fire came from a certain area," or that "there is the sound of tanks behind the trees." While this is specific and useful information for them, it employs a different locating procedure than the more formal co-ordinate positioning used at higher headquarters. The troops detected in these ways may have been part of known enemy battalions, the mortars may have already been located, etc. Thus, a limitation of the method employed in this study is that it is less useful in dealing with lower echelons than with higher. Therefore, front-line collecting agencies tend to appear less important than they probably were.

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<sup>6</sup>S.L.A. Marshall, The River and the Gauntlet, William Morrow & Company, New York, 1953.

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Piper Cubs, almost always organic to artillery units, were mainly used to direct artillery fire, although they had important intelligence functions as well as other miscellaneous duties. They provided the Army with a means of seeing further into the enemy rear than was possible by any other agency. A considerable part of their work consisted of "going up and taking a look" in a given area. Their contribution seems small, partly because of a confirming role for which they did not get the credit. The Cubs were important, however, in detecting some artillery and weapons, as well as enemy movements.

The artillery had other agencies peculiar to it alone. One of these consisted of flash and sound battalions, batteries of which were distributed along the front. II Corps artillery apparently did not have great confidence in these devices, for reports of sound and flash findings were never placed on the active location list, and often not even on the suspect list. Other corps had greater faith in this method. Shell reports also, though used by II Corps artillery, were not considered reliable or important, though they were sometimes useful as general guides for other searching agencies.

Civilian informants, while they can be helpful, are not always careful observers, partly because they lack the military education to look for the right things. We found fairly numerous reports of civilian information, but it

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tended to be of a rather general nature, such as that the "Germans had withdrawn three hours or so ago," that "there had been some tanks here yesterday," or that there was an antitank gun "down the road." Nevertheless, much of this information, when put with other reports, was helpful.

The reports of agents were kept secret, and information that may have been given by them is not credited to them in the records. Though radio interception records are still strictly controlled, there are references to radio intercept reports in the unit records. If the German experience was comparable to the American, then our forces got considerable confirmation on enemy OB, artillery, troop movements, and the general situation through this means. There were numerous other, miscellaneous agencies, but they were not of immediate and frequent assistance to the combat troops.

## Korea and Maneuvers

While this study has been concerned with World War II, the writer has made investigations, though less extensive than the present one, of intelligence in Korea and in recent maneuvers. A study of the Korean campaigns indicates that many of the findings of this study hold for that war also. The importance of the sources seemed about the same, although ground agencies apparently contributed more information than they had on the Fifth Army front. Also,

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perhaps because of language difficulties, POW information was less significant than in Italy, whereas the Piper Cub seemed to play a relatively more important role. Some of the shortcomings of intelligence in World War II reappeared in Korea: failure to pass on information, inadequate use of information that was available, differences between Air Force and Army on proper photo procedures, and lack of depth in information collection. One example will also indicate that there could have been a better exchange of information between the services. The night interdiction campaign was an important part of the Air Force effort in Korea. Had the Air Force been given POW information available to the Army on the routes used by reinforcements and supplies, the efficiency of the campaign could have been increased. But POW reports often got to Air Force a month late. There was a tendency in Korea, as there had been in Italy, to view the Air Force more as a source than as a worthwhile recipient of information.

The writer has had occasion to attend two large post-war maneuvers, SOUTHERN PINES (1951) and SAGEBRUSH (1956), which permitted him to continue the study of intelligence. At SAGEBRUSH, most of Phase V was spent with air reconnaissance units, Army G-2's, and the Army's experimental Unit Skycar. While some progress had been made with increased use of gadgets, such as infrared photography,

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television, and intrusion devices, there seemed to have been inadequate improvement in intelligence work. The Air Force and the Army still do not appear to be co-operating as much as they might in photo interpretation, and they do not seem to understand each other's problems. This, to some extent, explains why the Army is experimenting with Skycar. Transmission of information is still slow, and, except for Skycar, there has been little effort to gain information on the rear enemy areas. Project Michigan is, however, apparently working on this general problem.

## Implications for Future War

Most observers see the next ground war as one of great mobility, in which nuclear weapons will be used. There is much talk of hitting reserves, headquarters, and particularly troop concentrations with atomic weapons. Much stress is placed on tactics, but little on intelligence. This study would tend to confirm a suspicion that intelligence information is scarce in fluid situations, and that the amount that is available is often not passed on quickly enough. In Italy, both sides were sometimes ignorant of the positions of their own units, and both air and ground observers were often confused as to the identity of vehicles on the roads. As we have attempted to show, reserves were seldom identified and located until they

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were committed, and headquarters were often inaccurately located. Artillery and other weapons were difficult to locate.

On the basis of our findings, it would seem that aerial reconnaissance, even with current speedier procedures, would be too slow for highly mobile situations, in which movement would be much faster even than it was in Italy. If by tactical atomic weapons we mean 20-50 KT warheads, headquarters and other important positions will have to be located fairly accurately. Otherwise the Army would have to broadcast A-weapons on the enemy, which would be hardly feasible in a friendly country. It is hoped that the proponents of "highly mobile warfare" are aware of the intelligence difficulties which the present study highlights.

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APPENDIX A

DAILY RECORD OF SOURCE AND SUBJECT OF INFORMATION  
REPORTED TO II CORPS

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12 May														
II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten- tions	Fortifi- cations	Misc.	Total
POW	18	3	2								1			24
Tac/Recce									3	18		1	5	27
AOP				1										1
OP										1				1
Ground/Recce						3				1				4
Lower Units						3								3
Higher Units														0
Photo Interpretation														0
Others										1				1
Total	18	3	2	1		6			3	21	1	1	5	61

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13 May

II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten-tions	Fortifi-cations	Misc.	Total
POW	7	18	3									1	1	30
Tac/Recce				3			1		2	11		3		20
AOP										1			1	2
OP														0
Ground/Recce														0
Lower Units										2				2
Higher Units														0
Photo Inter-pretation														0
Others														0
Total	7	18	3	3			1		2	14		4	2	54

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14 May

II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten-tions	Fortifi-cations	Misc.	Total
POW	11	11		1				1						24
Tac/Recce				8	2	4			3	23		1	3	44
AOP						1				5			1	7
OP				2		1								3
Ground/Recce								3		1			1	5
Lower Units								1						1
Higher Units	1	1	1			2								5
Photo Inter-pretation														0
Others										1		1		2
Total	12	12	1	11	2	8		5	3	30		2	5	91

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15 May

II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten- tions	Fortifi- cations	Misc.	Total
POW	6	7	3	1		1						1		19
Tac/Recce				4		2			2	25		2	2	37
AOP				1	1	1			1	2			1	7
OP				1										1
Ground/Recce														0
Lower Units														0
Higher Units						1								1
Photo Inter-pretation														0
Others														0
Total	6	7	3	7	1	5			3	27		3	3	65

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16 May

II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten-tions	Portifi-cations	Misc.	Total
POW	5	1	1					2			1	2		12
Tac/Recce				6		2	1		4	24		1		38
AOP				1										1
OP														0
Ground/Recce					1							1		2
Lower Units						1								1
Higher Units														0
Photo Inter-pretation				1								1	2	4
Others				1										1
Total	5	1	1	9	1	3	1	2	4	24	1	5	2	59

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17 May														
II Corps	CB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten- tions	Fortifi- cations	Misc.	Total
POW	3	6	2									1	1	13
Tac/Recce				3		1			2	20		1	1	28
AOI														0
OP														0
Ground/Recce														0
Lower Units				1										1
Higher Units														0
Photo Inter- pretation														0
Others											1			1
Total	3	6	2	4		1			2	20	1	2	2	43

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18 May

II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten-tions	Fortifi-cations	Misc.	Total
POW	3	4		1				1	1				1	11
Tac/Recce				1					1	26			1	29
AOP													2	2
OP														0
Ground/Recce						1								1
Lower Units														0
Higher Units														0
Photo Inter-pretation									1					1
Others				1		1				1				3
Total	3	4		3		2		1	3	27			4	47

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19 May

II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten-tions	Fortifi-cations	Misc.	Total
POW	2	4	1										1	8
Tac/Recce				1						14				15
AOR						1							1	2
OP														0
Ground/Recce						1		1						2
Lower Units														0
Higher Units														0
Photo Inter-pretation														0
Others						2								2
Total	2	4	1	1		4		1		14			2	29

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20 May

IL Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten-tions	Fortifi-cations	Misc.	Total
POW	3	5	1	1		1		1			3	1		16
Tac/Recce				1					2	2		1	3	16
ACP				4		2				4		1	3	14
OP														0
Ground/Recce												1		1
Lower Units														0
Higher Units														0
Photo Inter-pretation														0
Others										1				1
Total	3	5	1	6		3		1	2	14	3	4	6	48

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21 May

II Corps	OB	Location of Units	Strength of Units	Artillery	A/T	Tank	Mortar	Mine Fields	AAA	Vehicular Movement	Inten-tions	Fortifi-cations	Misc.	Total
POW	6	5	4	2	1			1	1		2	1	1	24
Tac/Recce						1				14			5	20
AOI				1		2				4			3	10
GP						1								1
Ground/Recce								1		1			5	7
Lower Units														0
Higher Units														0
Photo Inter-pretation														0
Others		2		3										5
Total	6	7	4	6	1	4		2	1	19	2	1	14	67

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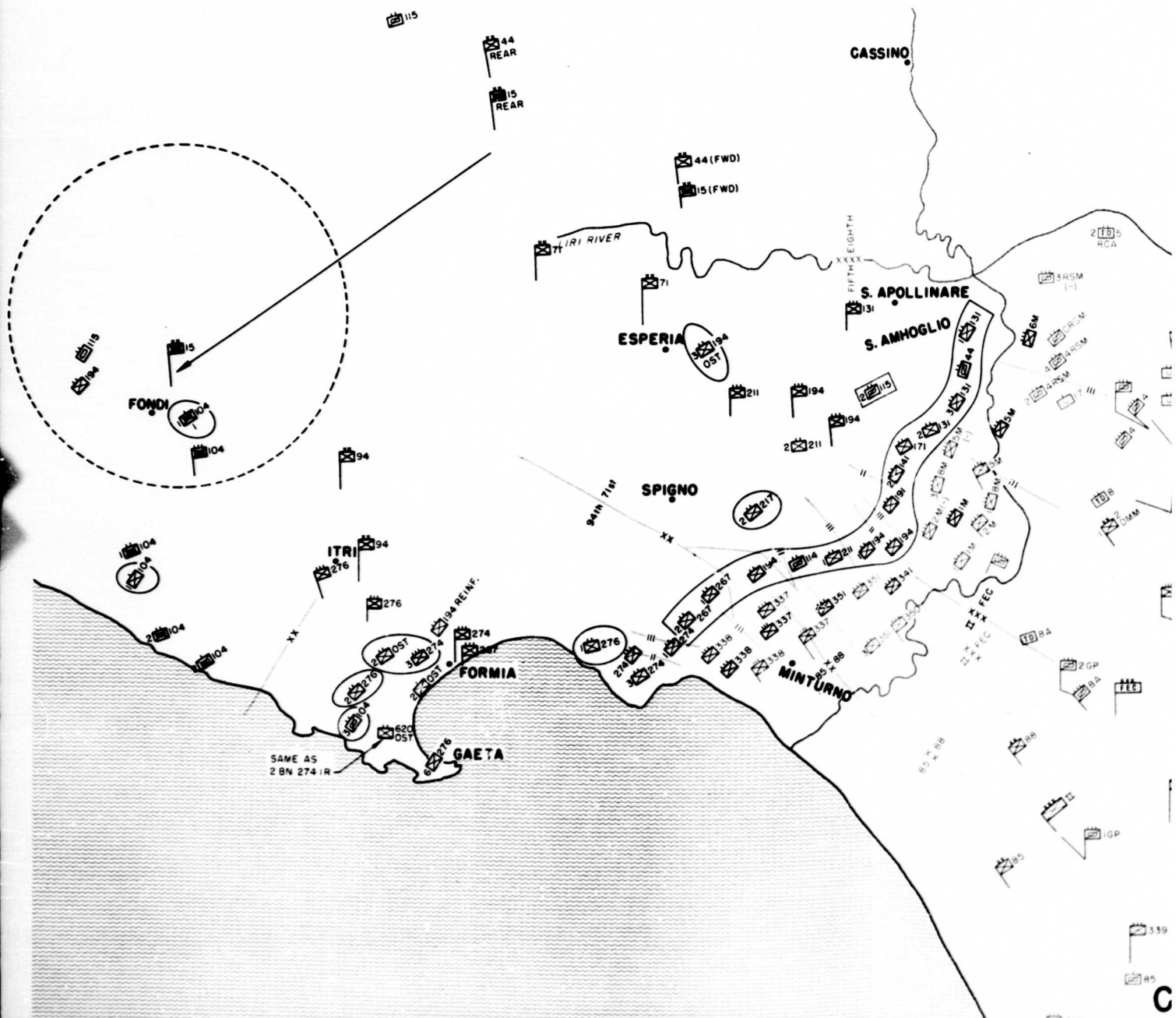
**APPENDIX B**

**MAY 12 -- ORDER OF BATTLE**

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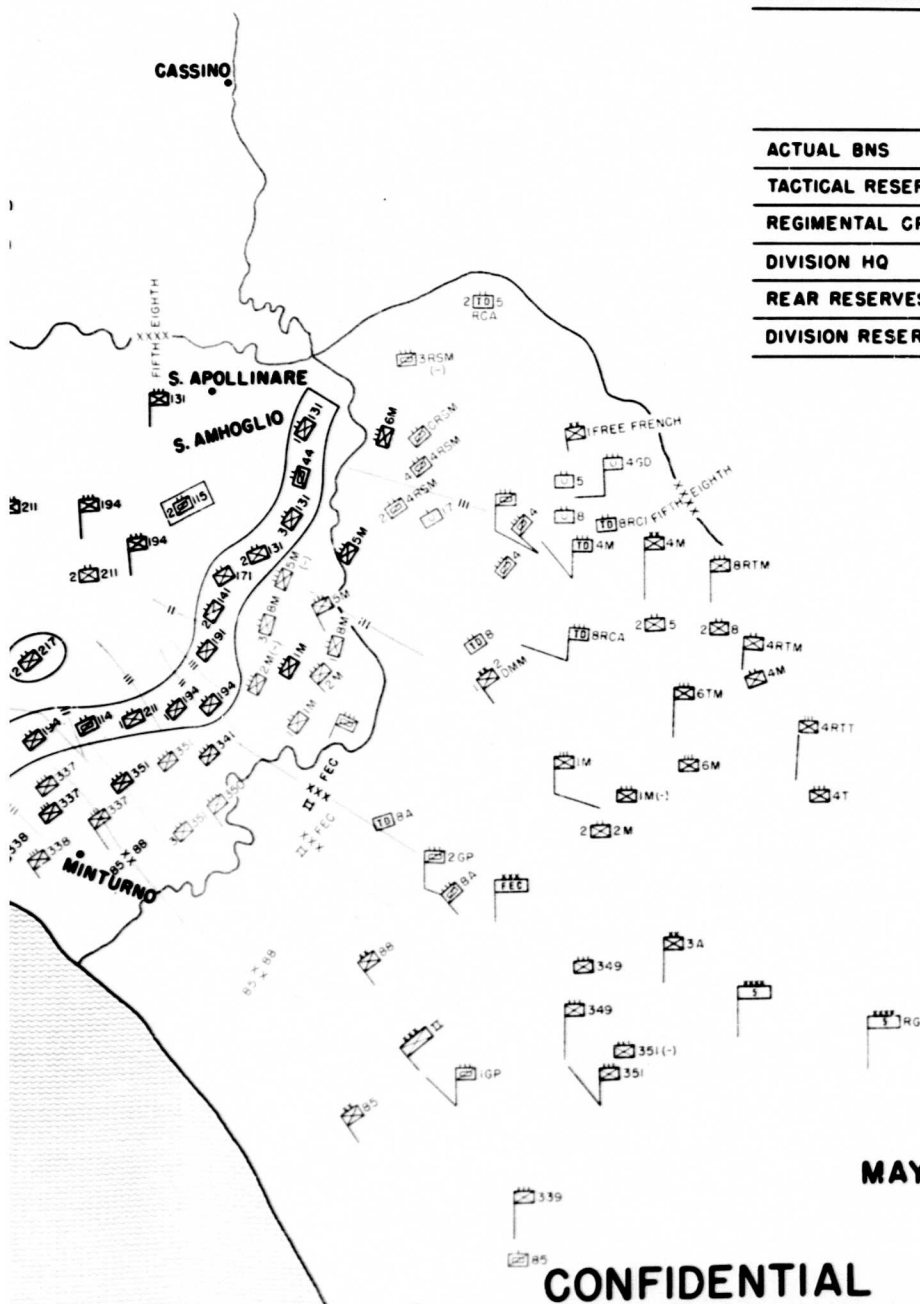
## GERMAN INTELLIGENCE

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	ACTUAL BNS	IDENTIFIED	PLACED AND IDENTIFIED
ACTUAL BNS	16	12	6
TACTICAL RESERVES	13	—	—
REGIMENTAL CPS	6	0	0
DIVISION HQ	4	0	0
REAR RESERVES	51	0	0
DIVISION RESERVES	3	0	0

## ALLIED INTELLIGENCE

	ACTUAL BNS	IDENTIFIED	PLACED AND IDENTIFIED
ACTUAL BNS	16	15	15
TACTICAL RESERVES	4	4	1
REGIMENTAL CPS	1	0	0
DIVISION HQ	2	1	0
REAR RESERVES	8	1	0
DIVISION RESERVES	1	0	0



- ALLIED UNITS
- GERMAN UNITS
- GERMAN IDENTIFICATIONS
- ALLIED IDENTIFICATIONS

MAY 12 — ORDER OF BATTLE

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APPENDIX C

IDENTIFICATION THROUGH GERMAN  
RADIO MONITORING

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9-12-56  
117.

IDENTIFICATION OF THIRD ALGERIAN INFANTRY DIVISION  
THROUGH GERMAN RADIO MONITORING

<u>German Intercepts</u>	<u>Actual Designation and Location</u>
29 April: 3 Algerian Infantry Regiment (RTA) recognized as part of 3 Algerian Infantry Division (DIA).	3 April- 3 DIA Hq. at Casale. 2 May: During April and early May, 3 DIA engaged in mountain warfare training in Salerno area.
30 April: CP of 3 RTA placed at Casale. Colliano mentioned as another location of 3 DIA.	
1 May: 3 RTA still placed near Salerno engaged in maneuvers.	
3 May: 3 DIA maneuvers concluded.	3 May: 3 DIA Hq. at Casale. Div. completing maneuvers.
5 May: 3 DIA not heard on radio. Assumed to be moving.	5 May: 3rd and 7th Regiments were moving.
13 May: 3 DIA Arty identified in Northern sector of FEC.	13 May: Bulk of 3 DIA in action. (2 Regts. plus Arty.)
14 May: 3 DIA identified by its code name, BELPHAGOR. In spite of identification of arty units of 3 DIA, Germans not sure that other elements of div. in action.	
15 May: Repeated mention of code names of 3 DIA units. Also, one its regimental commanders (Col. Chappuis of 7 Algerian Rgt.). Employment of 3 DIA in southern sector of FCC now assumed as certain.	15 May: 3 DIA in action in southern sector of FEC.

TABLE I

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<u>German Intercepts</u>	<u>Actual Designation and Location</u>
16 May: Unit BELIER identified as 3 RTA, BERCKIL as 4 RTT, and BEFFROI as 7 RTA. 3 RTA placed in area west of Monte Fammora.	16 May: BELIER was 7 Algerian Regt. (RTA), BERCKIL was 4 (RTT) Tunisian Regt. (part of DIA), BEFFROI was 3 RTA, 3 RTA 3 miles north of Monte Fammora. 7 RTA on Monte Fammora.
17 May: 4 RSM, normally attached to 4 DMM believed to be temporarily attached to 3 DIA.  4 RTT displacing, apparently moving into line.  7 RTA on right flank of 3 DIA.  67 Arty. Regt.-Code name HECHE identified in line. CP 1 km south of Ausonia. All 4 Bn. in action.	17 May: 4 RSM attached to 3 DIA.  4 RTT still in reserve.  7 RTA in center of 3 DIA.  No locations given for 67 Arty.
18 May: Unit with code name BLEED identified as a regt. of 3 DIA. 3 RTA and 7 RTA again identified in action, no locations. 67 Arty. Regt. CP at road junction 3 km east of Esperia. Arty. unit HERCULE, believed to be 65th Arty. Regt. presumably attached to 3 DIA.	BLEED is 2nd Goum, actually part of Mountain Corps. Possibly at that time co-operating closely with 3 DIA. No locations available for 67 Artillery Regt. 65 AAR not in Italy.
19 May: 3 RTA, 4 RTT, 67 Arty. R. again identified in action. BLEED now identified as being on east flank of ELIZZARD (4BMM). Believed to be due for relief by a unit of 3 DIA on 20 May.	19 May: 4 RTT now in action.

TABLE I (CONT'D)

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<u>German Intercepts</u>	<u>Actual Designation and Location</u>
20 May: Code names BELPHAGORE (3 DIA), BELJER, and BERLINE (3 Alg Spahi Regt.) again recognized. Apparently 3 Alg Spahi distinguished itself in action, received congratulations from 3 DIA. It is believed the line Mt. Cosonella-Pico form the division boundary to 4 DMM to the south.	20 May: BALEINE is 8 RTM of 2 DIM 3 Alg Spahi Regt. not mentioned in official Allied messages or combat records though there was a 3rd Spahi Recon. Bn. Line Pico-Mt. Cosonella part of boundary between 3 DIA and 4 Mountain Div. (DMM).
21 May: Again recognized in action: 3 RTA, 7 RTA, 3 Alg Spahi, and 67 Arty.	21 May: 3 RTA and 7 RTA in action.
22 May: 3 RTA and 3 Alg Spahi in close cooperation near Campo dei Morti. 3 RTA advancing toward Pico. 3 Alg Spahi ordered to contact Moroccan Mountain Corps on their left flank.	22 May: 3 RTA southeast of Campo dei Morti. Second attack on Pico made by 7 RTA.
23 May: New unit BARBARINE (2 Moroccan Div.) moving in between 3 DIA and 4 DMM.	23 May: 2 Moroccan Div. moved in between 3 DIA and 4 DMM during night.

TABLE I (CONT'D)

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## IDENTIFICATION OF U.S. 88TH INFANTRY DIVISION THROUGH GERMAN RADIO MONITORING

<u>German Intercepts</u>	<u>Actual Designation and Location</u>
14 May: First mention of 88th Div. in a reference to Kendall Task Force (LEATHER). LESSON and LEGION recognized as code names of what is believed to be arty. units of 88th Div. LEATHER RED called first Battery of an 88th Div. FA Bn.	14 May: Gen. Kendall, Asst. CG of 88th Div. was with 350th Inf. Regt. (Message possibly relayed by LEATHER (349 Inf. Regt.)). Kendall Task Force, consisting of all forward elements of 88th Div. not formed until 17 May.
15 May: FA Bn. LESSON again recognized, still believed to be part of 88th Div.	15 May: LESSON is 350th Infantry Regiment of 88th Div.
16 May: Two infantry regiments (LEADER and LEGGING) recognized, assumed to be part of 88th Div. Other messages confirm that 88th Div. sector borders on FEC to the north.	16 May: LEADER is 88th Div. Advance CP (also Hq. of Kendall Task Force). LEGGING is 351 Inf. Regt. 88th Div. borders on FEC.
17 May: LEADER and LEGGING again recognized. Also two other units: LOOPHOLE and LONELY, which remain unidentified.	17 May: LONELY is probably 91 Recon. Sq. or 601 FA Bn. LOOPHOLE is 339th FA Bn.
18 May: 88th Div. now assumed to be operation north of 85th Div. and south of FEC LEADER, LEGGING.	18 May: 88th Div. between 85th Div. and FEC.
19 May: Message indicates that LONELY is code name of an arty. unit, not part of corps arty.	19 May: LONELY is probably 601 FA Bn. Cannot be verified since SOI not available.
20 May: 88th Div. arty. firing into area Fondi-Lenola.	20 May: 88th Div. arty. targets lie west of Fondi.
21 May: Inf. Regt. LEGGING again recognized. Unidentified unit, LOBSTER, mentioned.	21 May: LOBSTER is 337th FA Bn.

TABLE II

# CONFIDENTIAL

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<u>German Intercepts</u>	<u>Actual Designation and Location</u>
22 May: LEGGING again mentioned, as well as new unidentified unit, LOAD (LODE). A message indirectly confirms that 88th Div. holds the right flank of II Corps, maintains contact with left flank of FEC.	22 May: LODE is 913 FA Bn. 88th Div. was holding right flank.

TABLE II (CONT'D)

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